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(FILE 'HOME' ENTERED AT 14:45:51 ON 19 AUG 2003)

FILE 'REGISTRY' ENTERED AT 14:46:00 ON 19 AUG 2003

L1 STRUCTURE UPLOADED

L2 5 S L1 SSS SAM

L3 102 S L1 SSS FULL

FILE 'CAPLUS, MEDLINE' ENTERED AT 14:59:56 ON 19 AUG 2003

L4 47 S L3

L5 0 S L3 AND PHOSPHORAMIDITE NUCLEOSIDE

L6 3 S L3 AND PHOSPHORAMIDITE

L7 3 DUP REM L6 (0 DUPLICATES REMOVED)

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(FILE 'HOME' ENTERED AT 14:45:51 ON 19 AUG 2003)

FILE 'REGISTRY' ENTERED AT 14:46:00 ON 19 AUG 2003

L1 STRUCTURE UPLOADED  
L2 5 S L1 SSS SAM  
L3 102 S L1 SSS FULL

FILE 'CAPLUS, MEDLINE' ENTERED AT 14:59:56 ON 19 AUG 2003

L4 47 S L3  
L5 0 S L3 AND PHOSPHORAMIDITE NUCLEOSIDE  
L6 3 S L3 AND PHOSPHORAMIDITE  
L7 3 DUP REM L6 (0 DUPLICATES REMOVED)  
L8 3 S L3 AND PHOSPHORAMIDITES  
L9 30 S L3 AND NUCLEOSIDE  
L10 5 S L9 AND PHOSP?

FILE 'REGISTRY' ENTERED AT 15:20:31 ON 19 AUG 2003

L11 STRUCTURE UPLOADED  
L12 0 S L11 SSS SAM  
L13 5 S L11 SSS FULL

FILE 'CAPLUS, MEDLINE' ENTERED AT 15:22:22 ON 19 AUG 2003

L14 6 S L13

FILE 'REGISTRY' ENTERED AT 15:22:53 ON 19 AUG 2003

L15 5 DUP REM L13 (0 DUPLICATES REMOVED)

FILE 'CAPLUS, MEDLINE' ENTERED AT 15:23:15 ON 19 AUG 2003

FILE 'CAPLUS, MEDLINE' ENTERED AT 15:23:31 ON 19 AUG 2003

L16 6 S L13

FILE 'REGISTRY' ENTERED AT 15:29:48 ON 19 AUG 2003

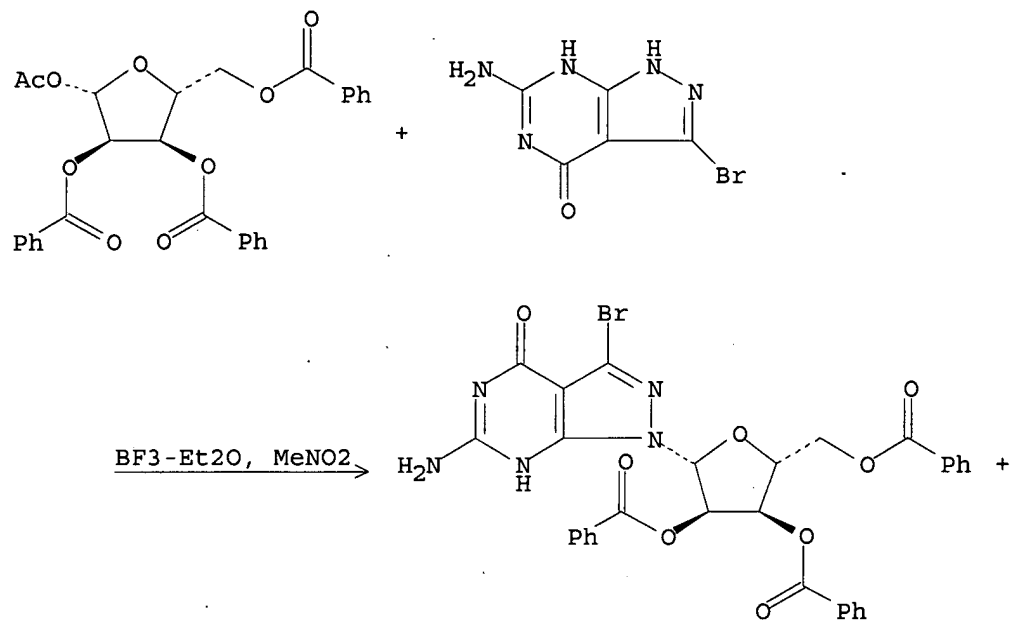
L17 STRUCTURE UPLOADED  
L18 0 S L17 SSS SAM  
L19 0 S L17 SSS FULL

FILE 'REGISTRY, BEILSTEIN, USPATFULL, CA, CHEMCATS' ENTERED AT 15:34:47  
ON 19 AUG 2003

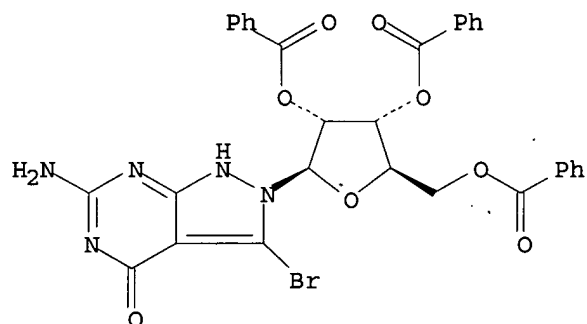
L20 91 S L3  
L21 4 S L20 AND PHOSPHORAMIDITE

TI Synthesis and biological activity of 6-azacadeguomycin and certain 3,4,6-trisubstituted pyrazolo[3,4-d]pyrimidine ribonucleosides

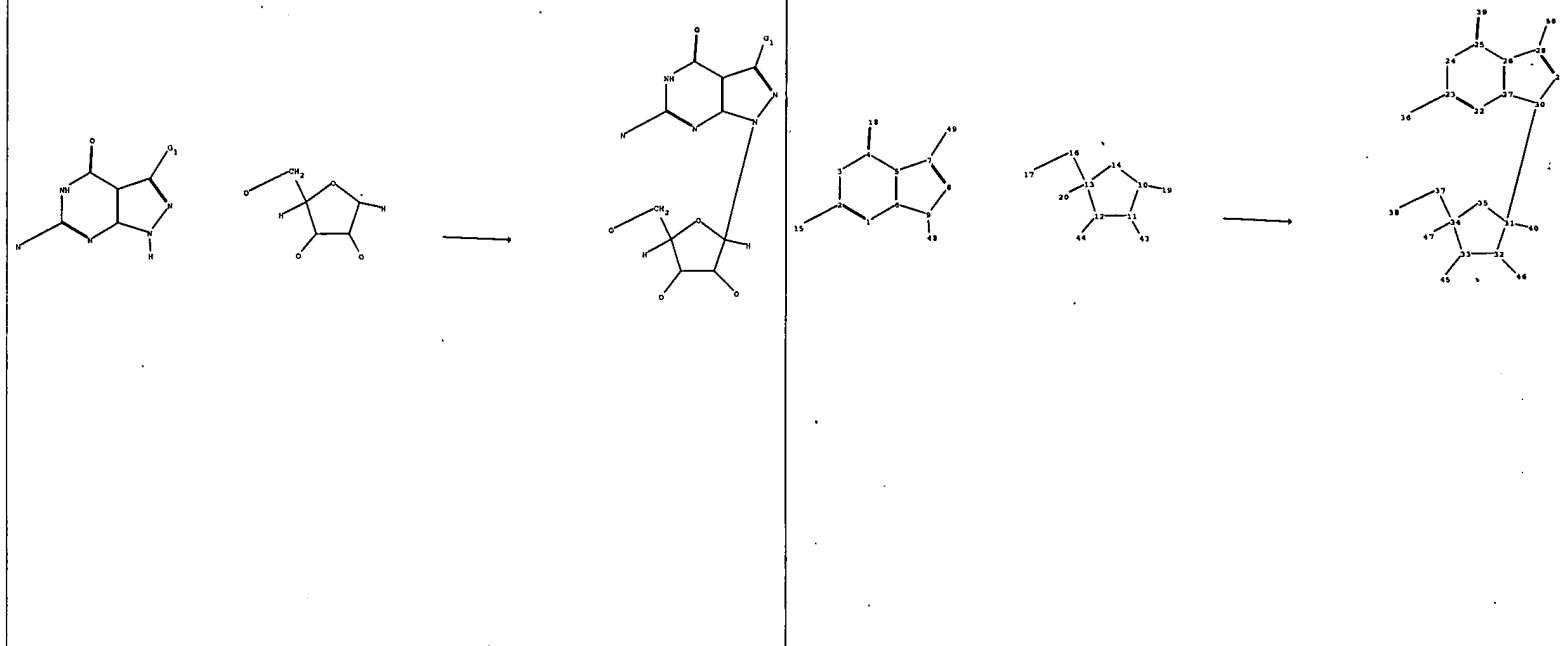
RX(8) OF 84



RX(8) OF 84



ALL ANSWERS HAVE BEEN SCANNED



chain nodes :

15 16 17 18 19 20 36 37 38 39 40 43 44 45 46 47 48 49 50

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 22 23 24 25 26 27 28 29 30 31 32  
33 34 35

chain bonds :

2-15 4-18 7-49 9-48 10-19 11-43 12-44 13-16 13-20 16-17 23-36 25-39 28-50  
30-31 31-40 32-46 33-45 34-37 34-47 37-38

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9 10-11 10-14 11-12 12-13 13-14 22-23  
22-27 23-24 24-25 25-26 26-27 26-28 27-30 28-29 29-30 31-32 31-35 32-33 33-34  
34-35

exact/norm bonds :

1-2 1-6 2-3 2-15 3-4 4-5 4-18 5-6 5-7 6-9 7-8 7-49 8-9 10-11 10-14 11-12  
11-43 12-13 12-44 13-14 22-23 22-27 23-24 23-36 24-25 25-26 25-39 26-27 26-28  
27-30 28-29 28-50 29-30 30-31 31-32 31-35 32-33 32-46 33-34 33-45 34-35

exact bonds :

9-48 10-19 13-16 13-20 16-17 31-40 34-37 34-47 37-38

G1:Cl,Br,I

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom  
12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS  
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom  
32:Atom 33:Atom 34:Atom 35:Atom 36:CLASS 37:CLASS 38:CLASS 39:CLASS 40:CLASS  
43:CLASS 44:CLASS 45:CLASS 46:CLASS 47:CLASS 48:CLASS 49:CLASS 50:CLASS

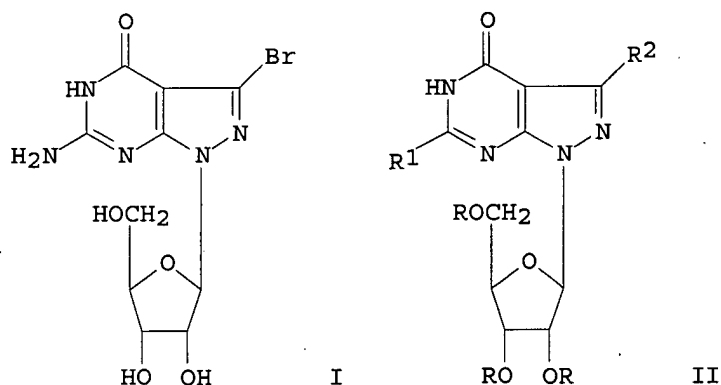
fragments assigned reactant role:

containing 1  
containing 10

fragments assigned product role:

containing 22

L18 ANSWER 1 OF 1 CASREACT COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 103:37693 CASREACT  
 TITLE: Synthesis and biological activity of 6-azacadeguomycin and certain 3,4,6-trisubstituted pyrazolo[3,4-d]pyrimidine ribonucleosides  
 AUTHOR(S): Petrie, Charles R., III; Cottam, Howard B.; McKernan, Patricia A.; Robins, Roland K.; Revankar, Ganapathi R.  
 CORPORATE SOURCE: Cancer Res. Cent., Brigham Young Univ., Provo, UT, 84602, USA  
 SOURCE: Journal of Medicinal Chemistry (1985), 28(8), 1010-16  
 CODEN: JMCMAR; ISSN: 0022-2623  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB High-temp. glycosylation of 3,6-dibromoallopurinol with 1-O-acetyl-2,3,5-tri-O-benzoyl-D-ribofuranose in the presence of BF<sub>3</sub>·OEt<sub>2</sub>, followed by ammonolysis, provided nucleoside I. Similar glycosylation of either 3-bromo-4(5H)-oxopyrazolo[3,4-d]pyrimidin-6-yl Me sulfoxide or 6-amino-3-bromopyrazolo[3,4-d]pyrimidin-4(5H)-one, and subsequent ammonolysis, also gave I. Application of this glycosylation procedure to 6-(methylthio)-4(5H)-oxopyrazolo[3,4-d]pyrimidine-3-carboxamide gave the corresponding N-1 glycosyl deriv. II (R = Bz, R1 = SMe, R2 = CONH<sub>2</sub>) (III). Dethiation and debenzoylation of III provided an alternate route to the recently reported 3-carbamoylallopurinol ribonucleoside. Oxidn. of III and subsequent ammonolysis afforded 6-amino-1-β-D-ribofuranosyl-4(5H)-oxopyrazolo[3,4-d]pyrimidine-3-carboxamide (IV) which on alk. treatment gave 6-azacadeguomycin II (R = H, R1 = NH<sub>2</sub>, R2 = CO<sub>2</sub>H). Acetylation of IV, followed by dehydration with phosgene, provided the versatile intermediate II (R = Ac, R1 = NH<sub>2</sub>, R2 = cyano) (V). Deacetylation of V gave 6-amino-1-β-D-ribofuranosyl-4(5H)-oxopyrazolo[3,4-d]pyrimidine-3-carbonitrile. Reaction of V with H<sub>2</sub>S gave II (R = H, R1 = NH<sub>2</sub>, R2 = CSNH<sub>2</sub>). All of these compds. were tested in vitro against certain viruses and tumor cells. Among these compds., the guanosine analogs I and II (R = H, R1 = NH<sub>2</sub>, R2 = cyano) showed significant activity against measles in vitro and exhibited moderate antitumor activity in vitro against L1210 and P388 leukemia. 6-Azacadeguomycin and all other compds. were inactive against the viruses and tumor cells tested in vitro.

L18 ANSWER 1 OF 1 CASREACT COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 103:37693 CASREACT

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AUTHOR(S): Petrie, Charles R., III; Cottam, Howard B.; McKernan, Patricia A.; Robins, Roland K.; Revankar, Ganapathi R.

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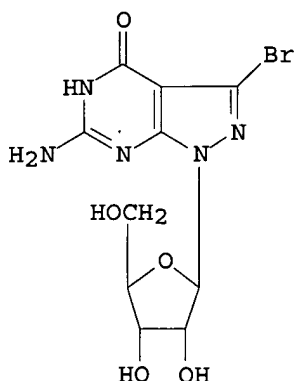
SOURCE: Journal of Medicinal Chemistry (1985), 28(8), 1010-16

CODEN: JMCMAR; ISSN: 0022-2623

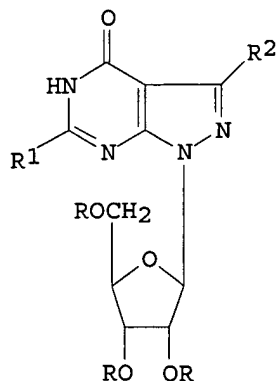
DOCUMENT TYPE: Journal

LANGUAGE: English

GI



I



II

AB High-temp. glycosylation of 3,6-dibromoallopurinol with 1-O-acetyl-2,3,5-tri-O-benzoyl-D-ribofuranose in the presence of BF<sub>3</sub>.OEt<sub>2</sub>, followed by ammonolysis, provided nucleoside I. Similar glycosylation of either 3-bromo-4(5H)-oxypyrazolo[3,4-d]pyrimidin-6-yl Me sulfoxide or 6-amino-3-bromopyrazolo[3,4-d]pyrimidin-4(5H)-one, and subsequent ammonolysis, also gave I. Application of this glycosylation procedure to 6-(methylthio)-4(5H)-oxypyrazolo[3,4-d]pyrimidine-3-carboxamide gave the corresponding N-1 glycosyl deriv. II (R = Bz, R<sub>1</sub> = SMe, R<sub>2</sub> = CONH<sub>2</sub>) (III). Dethiation and debenzoylation of III provided an alternate route to the recently reported 3-carbamoylallopurinol ribonucleoside. Oxidn. of III and subsequent ammonolysis afforded 6-amino-1-β-D-ribofuranosyl-4(5H)-oxypyrazolo[3,4-d]pyrimidine-3-carboxamide (IV) which on alk. treatment gave 6-azacadeguomycin II (R = H, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = CO<sub>2</sub>H). Acetylation of IV, followed by dehydration with phosgene, provided the versatile intermediate II (R = Ac, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = cyano) (V). Deacetylation of V gave 6-amino-1-β-D-ribofuranosyl-4(5H)-oxypyrazolo[3,4-d]pyrimidine-3-carbonitrile. Reaction of V with H<sub>2</sub>S gave II (R = H, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = CSNH<sub>2</sub>). All of these compds. were tested in vitro against certain viruses and tumor cells. Among these compds., the guanosine analogs I and II (R = H, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = cyano) showed significant activity against measles in vitro and exhibited moderate antitumor activity in vitro against L1210 and P388 leukemia. 6-Azacadeguomycin and all other compds. were inactive against the viruses and tumor cells tested in vitro.

L18 ANSWER 1 OF 1 CASREACT COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 103:37693 CASREACT

TITLE: Synthesis and biological activity of 6-azacadeguomycin and certain 3,4,6-trisubstituted pyrazolo[3,4-d]pyrimidine ribonucleosides

AUTHOR(S): Petrie, Charles R., III; Cottam, Howard B.; McKernan, Patricia A.; Robins, Roland K.; Revankar, Ganapathi R.

CORPORATE SOURCE: Cancer Res. Cent., Brigham Young Univ., Provo, UT, 84602, USA

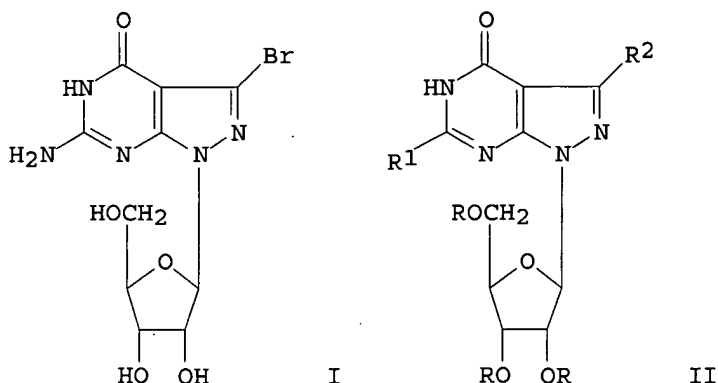
SOURCE: Journal of Medicinal Chemistry (1985), 28(8), 1010-16

CODEN: JMCMAR; ISSN: 0022-2623

DOCUMENT TYPE: Journal

LANGUAGE: English

GI

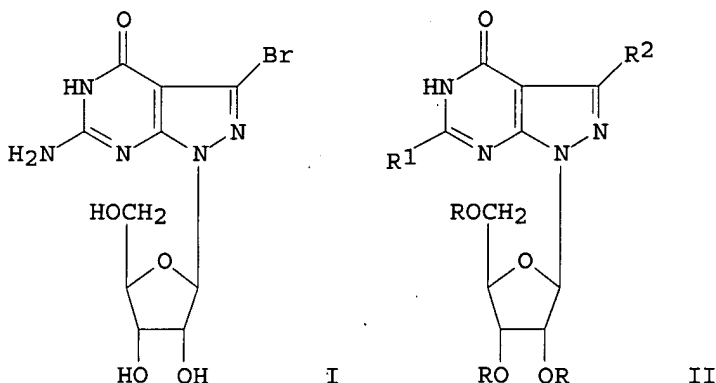


AB High-temp. glycosylation of 3,6-dibromoallopurinol with 1-O-acetyl-2,3,5-tri-O-benzoyl-D-ribofuranose in the presence of BF<sub>3</sub>·OEt<sub>2</sub>, followed by ammonolysis, provided nucleoside I. Similar glycosylation of either 3-bromo-4(5H)-oxypyrazolo[3,4-d]pyrimidin-6-yl Me sulfoxide or 6-amino-3-bromopyrazolo[3,4-d]pyrimidin-4(5H)-one, and subsequent ammonolysis, also gave I. Application of this glycosylation procedure to 6-(methylthio)-4(5H)-oxypyrazolo[3,4-d]pyrimidine-3-carboxamide gave the corresponding N-1 glycosyl deriv. II (R = Bz, R<sub>1</sub> = SMe, R<sub>2</sub> = CONH<sub>2</sub>) (III). Dethiation and debenzoylation of III provided an alternate route to the recently reported 3-carbamoylallopurinol ribonucleoside. Oxidn. of III and subsequent ammonolysis afforded 6-amino-1-β-D-ribofuranosyl-4(5H)-oxypyrazolo[3,4-d]pyrimidine-3-carboxamide (IV) which on alk. treatment gave 6-azacadeguomycin II (R = H, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = CO<sub>2</sub>H). Acetylation of IV, followed by dehydration with phosgene, provided the versatile intermediate II (R = Ac, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = cyano) (V). Deacetylation of V gave 6-amino-1-β-D-ribofuranosyl-4(5H)-oxypyrazolo[3,4-d]pyrimidine-3-carbonitrile. Reaction of V with H<sub>2</sub>S gave II (R = H, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = CSNH<sub>2</sub>). All of these compds. were tested in vitro against certain viruses and tumor cells. Among these compds., the guanosine analogs I and II (R = H, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = cyano) showed significant activity against measles in vitro and exhibited moderate antitumor activity in vitro against L1210 and P388 leukemia. 6-Azacadeguomycin and all other compds. were inactive against the viruses and tumor cells tested in vitro.

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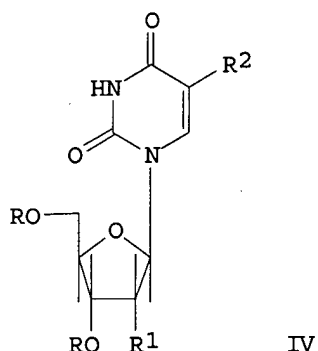
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ACCESSION NUMBER: 103:37693 CASREACT  
 TITLE: Synthesis and biological activity of 6-azacadeguomycin and certain 3,4,6-trisubstituted pyrazolo[3,4-d]pyrimidine ribonucleosides  
 AUTHOR(S): Petrie, Charles R., III; Cottam, Howard B.; McKernan, Patricia A.; Robins, Roland K.; Revankar, Ganapathi R.  
 CORPORATE SOURCE: Cancer Res. Cent., Brigham Young Univ., Provo, UT, 84602, USA  
 SOURCE: Journal of Medicinal Chemistry (1985), 28(8), 1010-16  
 CODEN: JMCMAR; ISSN: 0022-2623  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



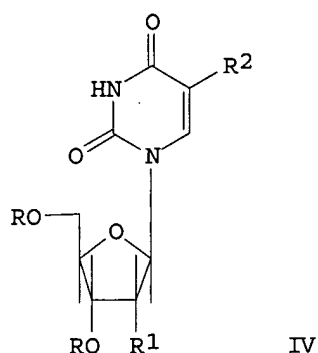
AB High-temp. glycosylation of 3,6-dibromoallopurinol with 1-O-acetyl-2,3,5-tri-O-benzoyl-D-ribofuranose in the presence of BF<sub>3</sub>·OEt<sub>2</sub>, followed by ammonolysis, provided nucleoside I. Similar glycosylation of either 3-bromo-4(5H)-oxypyrazolo[3,4-d]pyrimidin-6-yl Me sulfoxide or 6-amino-3-bromopyrazolo[3,4-d]pyrimidin-4(5H)-one, and subsequent ammonolysis, also gave I. Application of this glycosylation procedure to 6-(methylthio)-4(5H)-oxypyrazolo[3,4-d]pyrimidine-3-carboxamide gave the corresponding N-1 glycosyl deriv. II (R = Bz, R<sub>1</sub> = SMe, R<sub>2</sub> = CONH<sub>2</sub>) (III). Dethiation and debenzoylation of III provided an alternate route to the recently reported 3-carbamoylallopurinol ribonucleoside. Oxidn. of III and subsequent ammonolysis afforded 6-amino-1-β-D-ribofuranosyl-4(5H)-oxypyrazolo[3,4-d]pyrimidine-3-carboxamide (IV) which on alk. treatment gave 6-azacadeguomycin II (R = H, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = CO<sub>2</sub>H). Acetylation of IV, followed by dehydration with phosgene, provided the versatile intermediate II (R = Ac, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = cyano) (V). Deacetylation of V gave 6-amino-1-β-D-ribofuranosyl-4(5H)-oxypyrazolo[3,4-d]pyrimidine-3-carbonitrile. Reaction of V with H<sub>2</sub>S gave II (R = H, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = CSNH<sub>2</sub>). All of these compds. were tested in vitro against certain viruses and tumor cells. Among these compds., the guanosine analogs I and II (R = H, R<sub>1</sub> = NH<sub>2</sub>, R<sub>2</sub> = cyano) showed significant activity against measles in vitro and exhibited moderate antitumor activity in vitro against L1210 and P388 leukemia. 6-Azacadeguomycin and all other compds. were inactive against the viruses and tumor cells tested in vitro.

L45 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1979:457368 CAPLUS  
 DOCUMENT NUMBER: 91:57368  
 TITLE: Analogs of **nucleosides**. XVII. Preparation  
 of 2'-deoxyribonucleosides and their 5-halogeno  
 derivatives  
 AUTHOR(S): Brokes, Josef; Hrebabecky, Hubert; Beranek, Jiri  
 CORPORATE SOURCE: Inst. Org. Chem. Biochem., Czech. Acad. Sci., Prague,  
 166 10/6, Czech.  
 SOURCE: Collection of Czechoslovak Chemical Communications  
 (1979), 44(2), 439-47  
 CODEN: CCCCAK; ISSN: 0366-547X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB 2'-Deoxyuridine and its 5-halo derivs. were prepd. from uridine (I) or O2,  
 2'-cyclocouridine (II) by reaction with acetyl **halides** and  
 selective dehalogenation with Bu<sub>2</sub>SnH (III). I and AcBr gave a mixt. of 7%  
 IV (R = Ac, R1 = OAc, R2 = H) and 73% IV (R = Ac, R1 = Br, R2 = H) which  
 was **reduced** by III and Me<sub>2</sub>C(CN)N:NC(CN)Me<sub>2</sub> (V) to give 71% IV (R  
 = Ac, R1 = R2 = H) (VI). Similarly, 5-fluorouridine yielded IV (R = Ac, R1  
 = OAc, R2 = F) and IV (R = Ac, R1 = H, R2 = F), which was deprotected by  
 NH<sub>3</sub>-MeOH to give IV (R = R1 = H, R2 = F). II was treated with AcCl and  
 then with III-V to give 88.5% IV (R = R1 = R2 = H) (VII) after deblocking.  
 Treatment of VI and VII with bromosuccinimide gave 78% IV (R = Ac, R1 = H,  
 R2 = Br) and 43% IV (R = R1 = H, R2 = Br):. Nucleophilic cleavage of  
 II.HCl and cycloazauridine hydrochloride by methanolic HCl was also  
 studied.

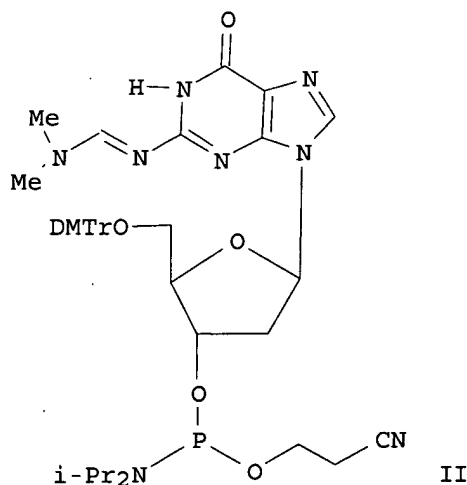
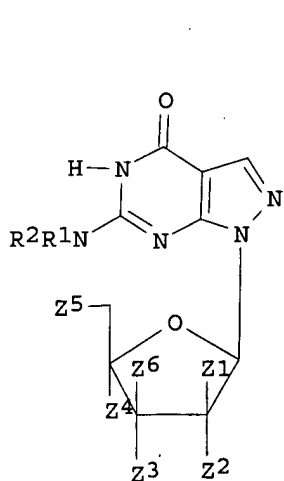
L45 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1979:457368 CAPLUS  
 DOCUMENT NUMBER: 91:57368  
 TITLE: Analogs of **nucleosides**. XVII. Preparation of 2'-deoxyribonucleosides and their 5-halogeno derivatives  
 AUTHOR(S): Brokes, Josef; Hrebabecky, Hubert; Beranek, Jiri  
 CORPORATE SOURCE: Inst. Org. Chem. Biochem., Czech. Acad. Sci., Prague, 166 10/6, Czech.  
 SOURCE: Collection of Czechoslovak Chemical Communications (1979), 44(2), 439-47  
 CODEN: CCCCAK; ISSN: 0366-547X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB 2'-Deoxyuridine and its 5-halo derivs. were prepd. from uridine (I) or O2, 2'-cycloauridine (II) by reaction with acetyl **halides** and selective dehalogenation with Bu<sub>2</sub>SnH (III). I and AcBr gave a mixt. of 7% IV (R = Ac, R1 = OAc, R2 = H) and 73% IV (R = Ac, R1 = Br, R2 = H) which was **reduced** by III and Me<sub>2</sub>C(CN)N:NC(CN)Me<sub>2</sub> (V) to give 71% IV (R = Ac, R1 = R2 = H) (VI). Similarly, 5-fluorouridine yielded IV (R = Ac, R1 = OAc, R2 = F) and IV (R = Ac, R1 = H, R2 = F), which was deprotected by NH<sub>3</sub>-MeOH to give IV (R = R1 = H, R2 = F). II was treated with AcCl and then with III-V to give 88.5% IV (R = R1 = R2 = H) (VII) after deblocking. Treatment of VI and VII with bromosuccinimide gave 78% IV (R = Ac, R1 = H, R2 = Br) and 43% IV (R = R1 = H, R2 = Br):. Nucleophilic cleavage of II.HCl and cycloazauridine hydrochloride by methanolic HCl was also studied.

L23 ANSWER 3 OF 5 CA COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 138:221790 CA  
 TITLE: Process for the synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups  
 INVENTOR(S): Dempcy, Robert O.; Adams, A. David; Reed, Michael W.  
 PATENT ASSIGNEE(S): Epoch Biosciences, Inc., USA  
 SOURCE: PCT Int. Appl., 34 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003022859	A2	20030320	WO 2002-US28476	20020905
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN; YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003078413	A1	20030424	US 2001-954624	20010912
PRIORITY APPLN. INFO.:			US 2001-954624	A 20010912
OTHER SOURCE(S):		CASREACT 138:221790; MARPAT 138:221790		
GI				



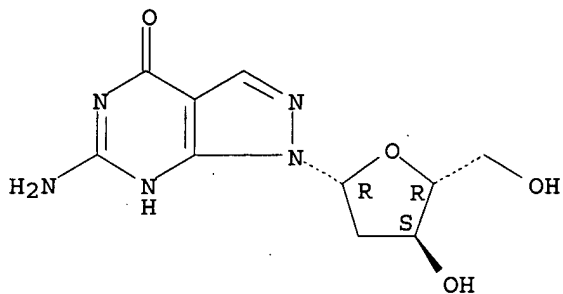
AB The present invention provides a nucleosides comprising a pyrazolopyrimidine base I and a process for producing the same. In particular, the processes of the present invention comprises using a halogenated pyrazolopyrimidine base and removing the halogen after the base is coupled to a sugar moiety. The presence of the halogen on the nucleoside base allows facile and economical prodn. of a large quantity of nucleosides. Thus, II

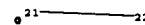
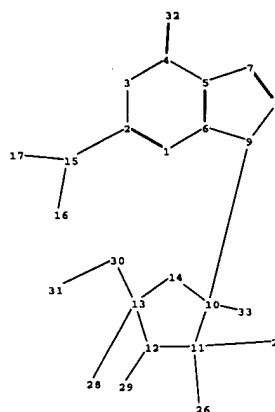
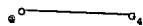
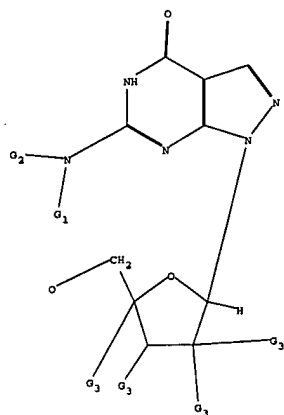
IT 100644-70-0P

(process for synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups)

RN 100644-70-0 CA

Absolute stereochemistry.





chain nodes :

15 16 17 21 22 25 26 28 29 30 31 32 33

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14

chain bonds :

2-15 4-32 9-10 10-33 11-25 11-26 12-29 13-28 13-30 15-16 15-17 21-22 30-31

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9 10-11 10-14 11-12 12-13 13-14

exact/norm bonds :

1-2 1-6 2-3 2-15 3-4 4-5 4-32 5-6 5-7 6-9 7-8 8-9 9-10 10-11 10-14 11-12

11-25 11-26 12-13 12-29 13-14 13-28 15-16 15-17 21-22

exact bonds :

10-33 13-30 30-31

G1:H,Ak

G2:H,Ak,N

G3:H,X,Ak

G4:H,Ak,O

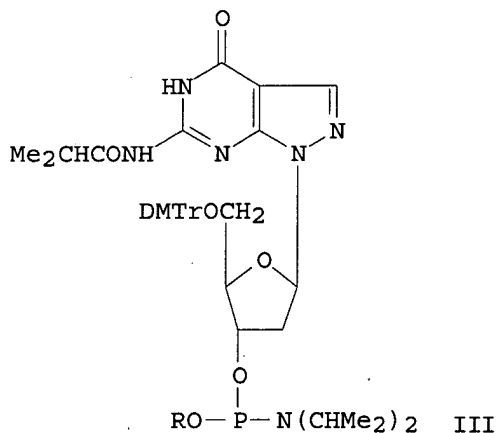
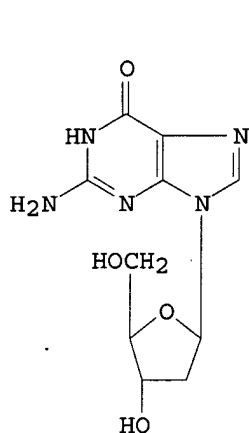
Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom

12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS 17:CLASS 21:CLASS 22:CLASS 25:CLASS

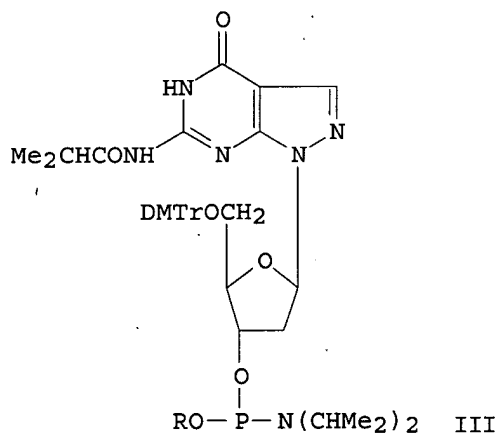
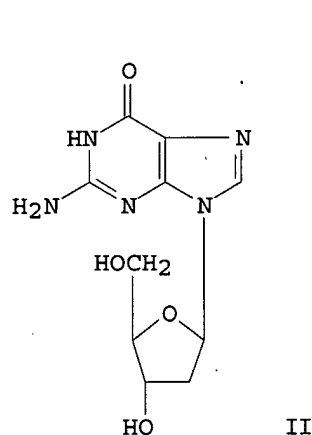
26:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS

L6 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1989:75966 CAPLUS  
 DOCUMENT NUMBER: 110:75966  
 TITLE: 8-Aza-7-deaza-2'-deoxyguanosine:  
**phosphoramidite** synthesis and properties of  
 octanucleotides  
 AUTHOR(S): Seela, Frank; Driller, Hansjuergen  
 CORPORATE SOURCE: Lab. Org. Bioorgan. Chem., Univ. Osnabrueck,  
 Osnabrueck, D-4500, Fed. Rep. Ger.  
 SOURCE: Helvetica Chimica Acta (1988), 71(5), 1191-8  
 CODEN: HCACAV; ISSN: 0018-019X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 110:75966  
 GI



AB Base-modified octanucleotides derived from d(G1-G2-A-A-T-T-C-C) (I) but contg. 8-aza-7-deaza-2'-deoxyguanosine (II) instead of 2'-deoxyguanosine have been prepd. by solid-phase synthesis employing P(III) chem. Isobutyrylation of II, followed by 4,4'-dimethoxytritylation and subsequent phosphitylation yielded the Me or the cyanoethyl **phosphoramidites** III [R = Me, (CH<sub>2</sub>)<sub>2</sub>CN], resp. They were used as building blocks in automated DNA synthesis. The resulting octanucleotides contg. II showed increased T<sub>m</sub> values compared to the parent oligomer I. The oligomers prepd. were employed as sequence-specific probes in endodeoxyribonuclease Eco RI oligonucleotide recognition. Whereas displacement of dG-2 (enzymic cleavage site of I) abolished phosphodiester hydrolysis, replacement of dG-1 enhanced the cleavage rate compared to I.

L6 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1989:75966 CAPLUS  
 DOCUMENT NUMBER: 110:75966  
 TITLE: 8-Aza-7-deaza-2'-deoxyguanosine:  
 phosphoramidite synthesis and properties of  
 octanucleotides  
 AUTHOR(S): Seela, Frank; Driller, Hansjuergen  
 CORPORATE SOURCE: Lab. Org. Bioorgan. Chem., Univ. Osnabrueck,  
 Osnabrueck, D-4500, Fed. Rep. Ger.  
 SOURCE: Helvetica Chimica Acta (1988), 71(5), 1191-8  
 CODEN: HCACAV; ISSN: 0018-019X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 110:75966  
 GI



AB Base-modified octanucleotides derived from d(G1-G2-A-A-T-T-C-C) (I) but contg. 8-aza-7-deaza-2'-deoxyguanosine (II) instead of 2'-deoxyguanosine have been prep'd. by solid-phase synthesis employing P(III) chem. Isobutyrylation of II, followed by 4,4'-dimethoxytritylation and subsequent phosphitylation yielded the Me or the cyanoethyl **phosphoramidites** III [R = Me, (CH<sub>2</sub>)<sub>2</sub>CN], resp. They were used as building blocks in automated DNA synthesis. The resulting octanucleotides contg. II showed increased T<sub>m</sub> values compared to the parent oligomer I. The oligomers prep'd. were employed as sequence-specific probes in endodeoxyribonuclease Eco RI oligonucleotide recognition. Whereas displacement of dG-2 (enzymic cleavage site of I) abolished phosphodiester hydrolysis, replacement of dG-1 enhanced the cleavage rate compared to I.

L6 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1999:693428 CAPLUS

DOCUMENT NUMBER: 132:64475

TITLE: Oligonucleotides containing pyrazolo[3,4-d]pyrimidines: the influence of 7-substituted 8-aza-7-deaza-2'-deoxyguanosines on the duplex structure and stability

AUTHOR(S): Seela, Frank; Becher, Georg

CORPORATE SOURCE: Laboratorium fur Organische und Bioorganische Chemie, Institut fur Chemie, Universitat Osnabruck, Osnabruck, D-49069, Germany

SOURCE: Helvetica Chimica Acta (1999), 82(10), 1640-1655

CODEN: HCACAV; ISSN: 0018-019X

PUBLISHER: Verlag Helvetica Chimica Acta

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Oligonucleotides contg. 7-substituted 8-aza-7-deazaguanines (= 6-amino-1,5-dihydro-4H-pyrazolo[3,4-d]pyrimidin-4-ones) were prepd. by automated solid-phase synthesis. A series of 7-alkynylated 8-aza-7-deaza-2'-deoxyguanosines were synthesized with the 7-iodonucleoside as starting material and by the Pd0/CuI-catalyzed cross-coupling reaction with various alkynes. **Phosphoramidites** were prepd. from the 7-substituted 8-aza-7-deaza-2'-deoxyguanosine derivs. carrying halogeno, cyano, and hexynyl substituents. From the melting profiles of oligonucleotide duplexes, the Tm values as well as the thermodyn. data were detd. A significant duplex stabilization by the 7-substituents was obsd. for the DNA .cntdot. DNA duplexes, but not in the case of DNA .cntdot. RNA hybrids.

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

~~L6~~ L6 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1989:458263 CAPLUS

DOCUMENT NUMBER: 111:58263

TITLE: Alternating d(G-C)3 and d(C-G)3 hexanucleotides containing 7-deaza-2'-deoxyguanosine or 8-aza-7-deaza-2'-deoxyguanosine in place of dG

AUTHOR(S): Seela, Frank; Driller, Hansjuergen

CORPORATE SOURCE: Fachber. Biol./Chem., Univ. Osnabrueck, Osnabrueck, D-4500, Fed. Rep. Ger.

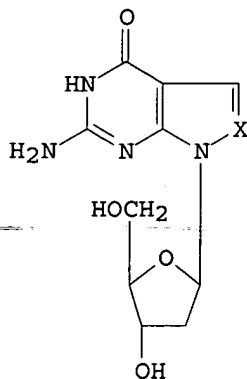
SOURCE: Nucleic Acids Research (1989), 17(3), 901-10

CODEN: NARHAD; ISSN: 0305-1048

DOCUMENT TYPE: Journal

LANGUAGE: English

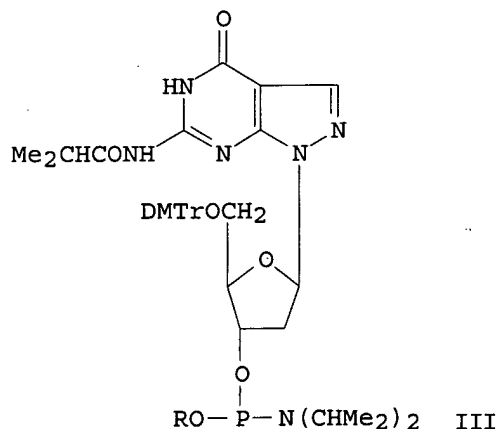
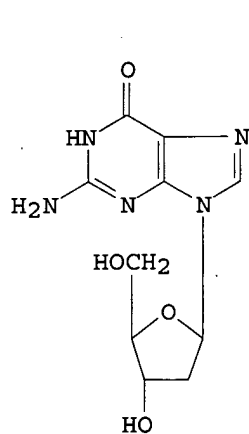
GI



I

AB The synthesis of alternating hexamers derived from d(C-G)<sub>3</sub> or d(G-C)<sub>3</sub> but contg. c7z8Gd (I, X = N) or c7Gd (I, X = CH) instead of dG is described employing **phosphoramidite**-chem. Apart from the isobutyryl group, the dimethylaminomethylene residue was used for the nucleobase-protection of I (X = CH). The methyl- and the cyanoethyl-**phosphoramidites** of I (X = CH) were prepd. They were employed together with those of c7G or c7z8Gd in automated oligonucleotide synthesis. T<sub>m</sub>-values as well as thermodyn. data of the oligomers indicated that duplexes were destabilized if c7Gd replaced dG, whereas c7z8Gd stabilized the duplex structure. In contrast to d(C-G)<sub>3</sub> which underwent salt-dependent B-Z transition, the CD spectra of oligomers contg. c7Gd or c7z8Gd in place of dG showed retained .beta.-conformation.

L6 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1989:75966 CAPLUS  
 DOCUMENT NUMBER: 110:75966  
 TITLE: 8-Aza-7-deaza-2'-deoxyguanosine:  
**phosphoramidite** synthesis and properties of octanucleotides  
 AUTHOR(S): Seela, Frank; Driller, Hansjuergen  
 CORPORATE SOURCE: Lab. Org. Bioorgan. Chem., Univ. Osnabrueck, Osnabrueck, D-4500, Fed. Rep. Ger.  
 SOURCE: Helvetica Chimica Acta (1988), 71(5), 1191-8  
 CODEN: HCACAV; ISSN: 0018-019X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 110:75966  
 GI



AB Base-modified octanucleotides derived from d(G1-G2-A-A-T-T-C-C) (I) but contg. 8-aza-7-deaza-2'-deoxyguanosine (II) instead of 2'-deoxyguanosine have been prepd. by solid-phase synthesis employing P(III) chem. Isobutyrylation of II, followed by 4,4'-dimethoxytritylation and subsequent phosphitylation yielded the Me or the cyanoethyl **phosphoramidites** III [R = Me, (CH<sub>2</sub>)<sub>2</sub>CN], resp. They were used as building blocks in automated DNA synthesis. The resulting octanucleotides contg. II showed increased T<sub>m</sub> values compared to the parent oligomer I. The oligomers prepd. were employed as sequence-specific probes in endodeoxyribonuclease Eco RI oligonucleotide recognition. Whereas displacement of dG-2 (enzymic cleavage site of I) abolished phosphodiester hydrolysis, replacement of dG-1 enhanced the cleavage rate compared to I.

L10 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2003:221699 CAPLUS

DOCUMENT NUMBER: 138:221790

TITLE: Process for the synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups

INVENTOR(S): Dempcy, Robert O.; Adams, A. David; Reed, Michael W.

PATENT ASSIGNEE(S): Epoch Biosciences, Inc., USA

SOURCE: PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

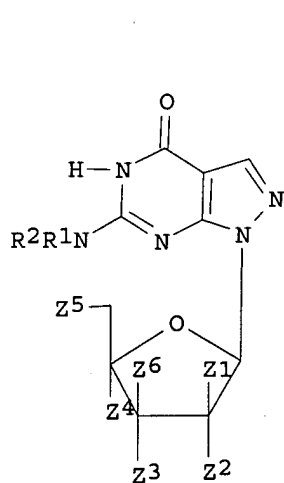
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003022859	A2	20030320	WO 2002-US28476	20020905
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RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

US 2003078413 A1 20030424 US 2001-954624 20010912

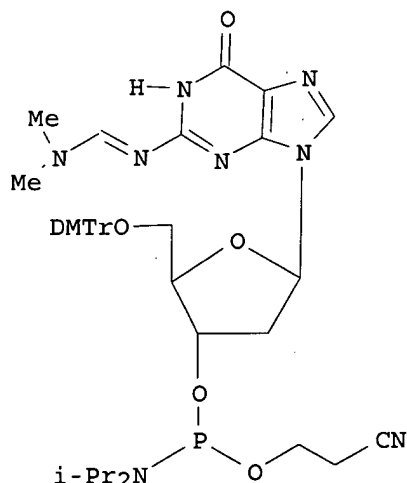
PRIORITY APPLN. INFO.: US 2001-954624 A 20010912

OTHER SOURCE(S): CASREACT 138:221790; MARPAT 138:221790

GI



I

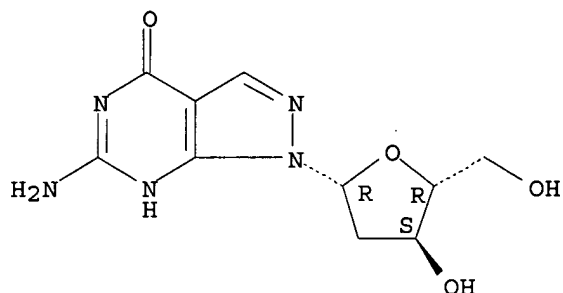


II

AB The present invention provides a nucleosides comprising a pyrazolopyrimidine base I and a process for producing the same. In particular, the processes of the present invention comprises using a halogenated pyrazolopyrimidine base and removing the halogen after the base is coupled to a sugar moiety. The presence of the halogen on the nucleoside base allows facile and economical prodn. of a large quantity of nucleosides. Thus, II was prepd. via halogenation reaction and using photolabile hydroxy protecting groups.

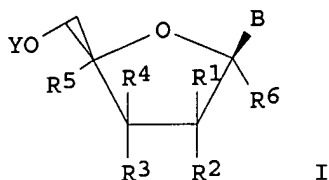
.IT 100644-70-0P  
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (process for synthesis of pyrazolopyrimidine **nucleosides** via halogenation reaction and using photolabile hydroxy protecting groups)  
 RN 100644-70-0 CAPLUS  
 CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-1,5-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L10 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS on STM  
 ACCESSION NUMBER: 2002:555629 CAPLUS  
 DOCUMENT NUMBER: 137:125359  
 TITLE: Preparation of **nucleoside** derivatives as inhibitors of RNA-dependent RNA viral polymerase  
 INVENTOR(S): Carroll, Steven S.; Lafemina, Robert L.; Hall, Dawn L.; Himmelberger, Amy L.; Kuo, Lawrence C.; Maccoss, Malcolm; Olsen, David B.; Rutkowski, Carrie A.; Tomassini, Joanne E.; An, Haoyun; Bhat, Balkrishen; Bhat, Neelima; Cook, Phillip Dan; Eldrup, Anne B.; Guinosso, Charles J.; Prhavc, Marija; Prakash, Thazha P.  
 PATENT ASSIGNEE(S): Merck & Co., Inc., USA; Isis Pharmaceuticals, Inc.  
 SOURCE: PCT Int. Appl., 235 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002057425	A2	20020725	WO 2002-US1531	20020118
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002147160	A1	20021010	US 2002-52318	20020118
PRIORITY APPLN. INFO.:			US 2001-263313P	P 20010122
			US 2001-282069P	P 20010406
			US 2001-299320P	P 20010619
			US 2001-344528P	P 20011025
OTHER SOURCE(S):			MARPAT 137:125359	
GI				



AB The present invention provides the prepn. of **nucleoside** compds. I, wherein B is nucleobase, Y is H, alkylcarbonyl, **phosphate**; R1 is H, alkenyl, alkynyl, alkyl; R2 and R3 are independently H, OH, halogen, alkyl, alkoxy, alkenyloxy, alkylthio, alkylcarbonyloxy, aryloxyrcbonyl, azido, amino, alkylamino; R1 and R2 together with the carbon atom to which they are attached form a 3- to 6-membered heterocycle; R4 is H, OH, SH, NH2, alkylamino, cycloalkylamino, halogen, alkyl, alkoxy, CF3; R5 and R6 are independently H, hydroxymethyl, Me, fluoromethyl; and certain derivs. thereof which are inhibitors of RNA-dependent RNA viral polymerase. These compds. are inhibitors of RNA-dependent RNA viral replication and are useful for the treatment of RNA-dependent RNA viral infection. They are particularly useful as inhibitors of hepatitis C virus (HCV) NS5B polymerase, as inhibitors of HCV replication, and/or for the treatment of hepatitis C infection. The invention also describes pharmaceutical compns. contg. such **nucleoside** compds. alone or in combination with other agents active against RNA-dependent RNA viral infection, in particular HCV infection. Also disclosed are methods of inhibiting RNA-dependent RNA polymerase, inhibiting RNA-dependent RNA viral replication, and/or treating RNA-dependent RNA viral infection with the **nucleoside** compds. of the present invention. Thus, 4-amino-1-(2-C-methyl-.beta.-D-ribofuranosyl)-1H-pyrazolo[3,4-d]pyrimidine was prepd. as inhibitors of RNA-dependent RNA viral polymerase. Representative compds. tested in the HCV NS5B polymerase assay exhibited IC's less than 100 .mu.M. The compds. of the present invention were also evaluated for their ability to affect the replication of Hepatitis C Virus RNA in cultured hepatoma (HuH-7) cells contg. a sub-genomic HCV Replicon.

IT **28072-49-3P**

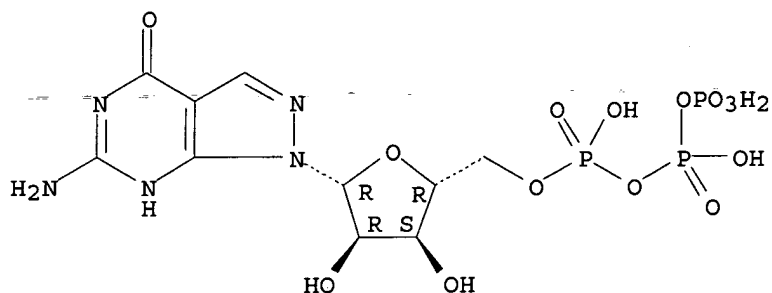
RL: IMF (Industrial manufacture); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

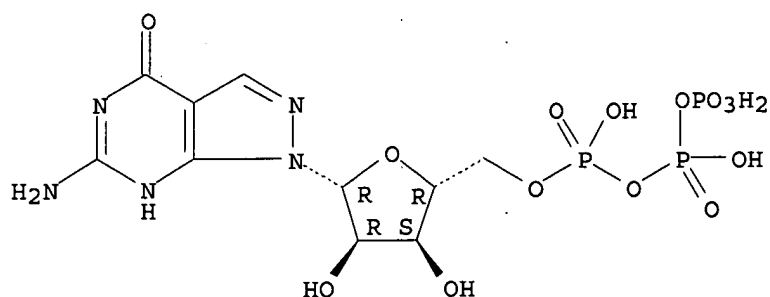
(prepn. of **nucleoside** derivs. as inhibitors of RNA-dependent human RNA viral polymerase)

RN 28072-49-3 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1,5-dihydro-1-[5-O-[hydroxy[[hydroxy(phosphonooxy)phosphinyl]oxy]phosphinyl]-.beta.-D-ribofuranosyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.





L10 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1992:604404 CAPLUS

DOCUMENT NUMBER: 117:204404

TITLE: A novel non-radioactive method for detection of nucleoside analog phosphorylation by 5'-nucleotidase

AUTHOR(S): Fujitaki, James M.; Nord, L. Dee; Willis, Randall C.; Robins, Roland K.

CORPORATE SOURCE: Nucl. Acid Res. Inst., ICN, Costa Mesa, CA, USA

SOURCE: Journal of Biochemical and Biophysical Methods (1992), 25(1), 1-10

CODEN: JBBMDG; ISSN: 0165-022X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Cytosolic 5'-nucleotidase has been implicated in the phosphorylation of certain nucleosides of therapeutic interest. In vitro, IMP and GMP serve as the optimal phosphate donors for this nucleoside phosphotransferase reaction. Existing assays for nucleoside phosphorylation by 5'-nucleotidase require a radiolabeled nucleoside as the phosphate acceptor and sepn. of the substrate-nucleoside from product-nucleotide is accomplished by filter binding or HPLC. The detection of phosphorylation of unlabeled nucleoside by HPLC is difficult since the UV absorbance of the phosphate donor, IMP, frequently obscures the absorbance of newly formed nucleotide. The use of ribavirin 5'-phosphate as the phosphate donor obviates this difficulty since this triazole heterocycle does not absorb at the wavelengths used to detect most nucleoside analogs. Using this procedure, the 5'-nucleotidase activity from the 100,000g supernatant fraction of human T-lymphoblasts deficient in adenosine kinase, hypoxanthine-guanine phosphoribosyltransferase, and deoxycytidine kinase was characterized with regard to structure-activity relationships for certain inosine and guanosine analogs.

IT 85426-74-0, 7-Deaza-8-azaguanosine 96555-37-2,

7-Deaza-7-bromo-8-azaguanosine

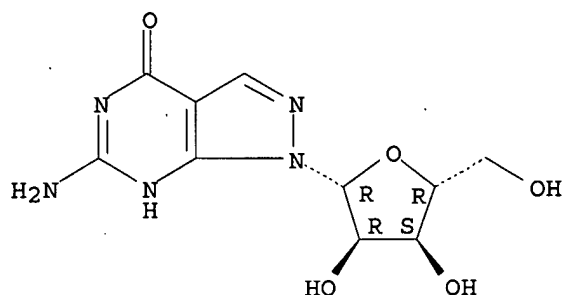
RL: ANST (Analytical study)

(phosphorylation of, nucleotidase assay for, structure in relation to)

RN 85426-74-0 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1,5-dihydro-1-.beta.-D-ribofuranosyl- (9CI) (CA INDEX NAME)

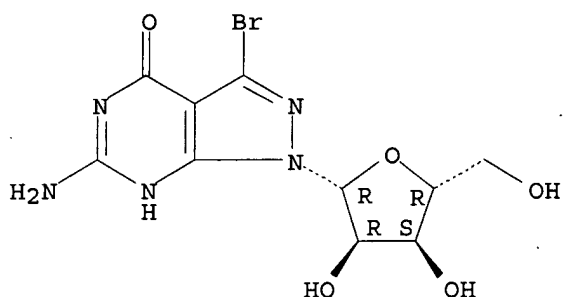
Absolute stereochemistry.



RN 96555-37-2 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-3-bromo-1,5-dihydro-1-.beta.-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L10 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1990:497956 CAPLUS

DOCUMENT NUMBER: 113:97956

TITLE: Synthesis of certain pyrazolo[3,4-d]pyrimidin-3-one nucleosides

AUTHOR(S): Anderson, Jack D.; Cottam, Howard B.; Larson, Steven B.; Nord, L. Dee; Revankar, Ganapathi R.; Robins, Roland K.

CORPORATE SOURCE: ICN Nucl. Acid Res. Inst., Costa Mesa, CA, 92626, USA  
SOURCE: Journal of Heterocyclic Chemistry (1990), 27(2), 439-53

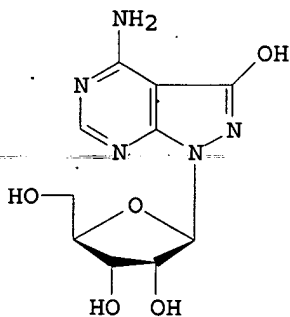
CODEN: JHTCAD; ISSN: 0022-152X

DOCUMENT TYPE: Journal

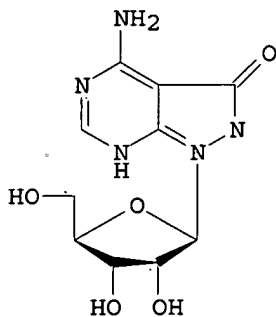
LANGUAGE: English

OTHER SOURCE(S): CASREACT 113:97956

GI



I



II

AB Synthesis of the pyrazolo[3,4-d]pyrimidin-3-one congeners of guanosine, adenosine and inosine is described. Glycosylation of 3-methoxy-6-methylthio-1H-pyrazolo[3,4-d]pyrimidin-4(5H)-one with 1-O-acetyl-2,3,5-tri-O-benzoyl-D-ribofuranose in the presence of boron trifluoride etherate gave 3-methoxy-6-methylthio-1-(2,3,5-tri-O-benzoyl-.beta.-D-ribofuranosyl)pyrazolo[3,4-d]pyrimidin-4(5H)-one which, after successive treatments with 3-chloroperoxybenzoic acid and methanolic ammonia, afforded 6-amino-3-methoxy-1-.beta.-D-ribofuranosylpyrazolo[3,4-d]pyrimidin-4(5H)-one. The guanosine analog, 6-amino-1-.beta.-D-ribofuranosylpyrazolo[3,4-d]pyrimidine-3,4(2H,5H)-dione, was made by sodium iodide-chlorotrimethylsilane treatment of 6-amino-3-methoxy-1-(2,3,5-tri-O-acetyl-.beta.-D-ribofuranosyl)pyrazolo[3,4-d]pyrimidin-4(5H)-one, followed by sugar deprotection. Treatment of the adenine analog, 4-amino-1H-pyrazolo[3,4-d]pyrimidin-3(2H)-one, according to the high temp. glycosylation procedure yielded a mixt. of N-1 and N-2 ribosyl-attached isomers. Deprotection of the individual isomers afforded 4-amino-3-hydroxyl-.beta.-D-ribofuranosylpyrazolo[3,4-d]pyrimidine (I) and 4-amino-2-.beta.-D-ribofuranosylpyrazolo[3,4-d]pyrimidin-3(7H)-one (II). The structures of I and II were established by single crystal X-ray diffraction anal. The inosine analog, 1-.beta.-D-ribofuranosylpyrazolo[3,4-d]pyrimidine-3,4(2H,5H)-dione, was synthesized enzymically by direct ribosylation of 1H-pyrazolo[3,4-d]pyrimidine-3,4(2H,5H)-dione with ribose-1-phosphate in the presence of purine nucleoside phosphorylase, and also deamination of I with adenosine deaminase.

IT 111375-45-2P

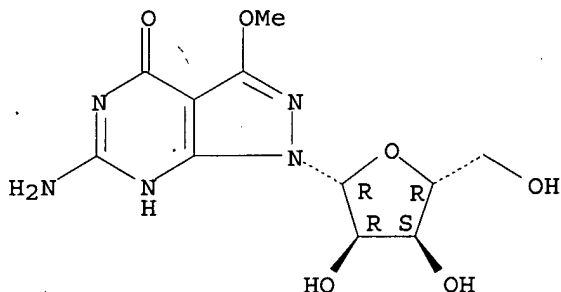
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and acetylation of)

RN 111375-45-2 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1,5-dihydro-3-methoxy-1-.beta.-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 127820-75-1P

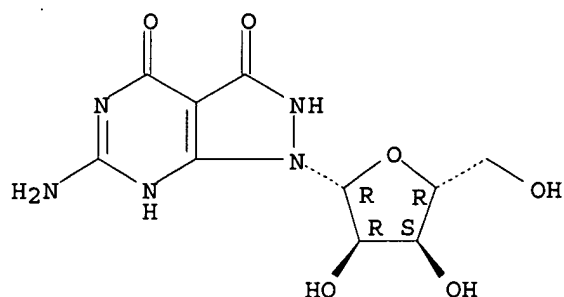
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and debenzoylation of)

RN 127820-75-1 CAPLUS

CN 1H-Pyrazolo[3,4-d]pyrimidine-3,4(2H,5H)-dione, 6-amino-1-.beta.-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 128850-59-9P

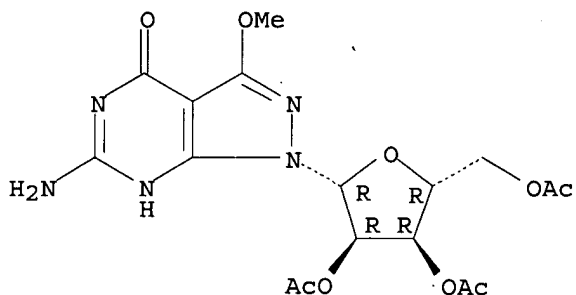
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and demethylation of)

RN 128850-59-9 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1,5-dihydro-3-methoxy-1-(2,3,5-tri-O-acetyl-.beta.-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 128850-60-2P

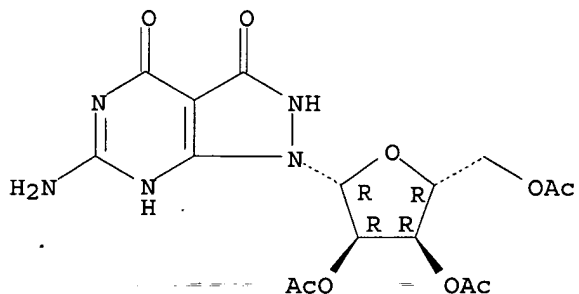
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and deprotection of)

RN 128850-60-2 CAPLUS

CN 1H-Pyrazolo[3,4-d]pyrimidine-3,4(2H,5H)-dione, 6-amino-1-(2,3,5-tri-O-acetyl-.beta.-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L10 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1990:119293 CAPLUS

DOCUMENT NUMBER: 112:119293

TITLE: Pyrazolo[3,4-d]pyrimidine 2'-deoxyribo- and

2',3'-dideoxyribofuranosides: synthesis and application to oligonucleotide chemistry  
 AUTHOR(S): Seela, F.; Driller, H.; Kaiser, K.; Rosemeyer, H.; Steker, H.  
 CORPORATE SOURCE: Lab. Org. Bioorg. Chem., Univ. Osnabrueck, Fed. Rep. Ger.  
 SOURCE: Nucleosides & Nucleotides (1989), Volume Date 1988, 8(5-6), 789-92  
 CODEN: NUNUD5; ISSN: 0732-8311  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 112:119293  
 GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB A symposium communication on the synthesis of pyrazolopyrimidine deoxyribonucleosides, e.g., I (R = NH<sub>2</sub>, H; R<sub>1</sub> = H, NH<sub>2</sub>) and II (R<sub>2</sub> = H, NH<sub>2</sub>), is described employing either liq.-liq. or solid-liq. phase-transfer glycosylation. From I (R = NH<sub>2</sub>, R<sub>1</sub> = H) and II (R<sub>2</sub> = NH<sub>2</sub>), the **phosphoramidates** III (R<sub>3</sub> = Me, CH<sub>2</sub>CH<sub>2</sub>CN, DMT = dimethoxytrityl) and IV were prep'd. They were used in automated solid-phase synthesis of 10 oligonucleotides. Deoxygenation of I (R = NH<sub>2</sub>, R<sub>1</sub> = H) and II (R<sub>2</sub> = NH<sub>2</sub>) yielded pyrazolopyrimidine 2',3'-dideoxynucleosides isosteric to ddA, ddG, and ddI.

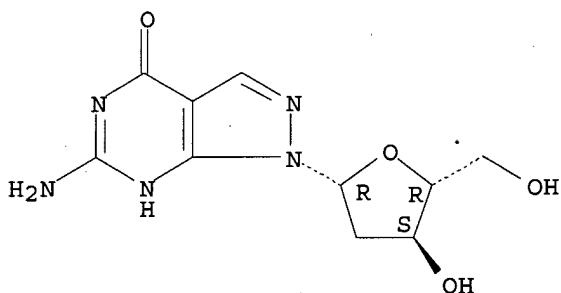
IT 100644-70-0P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and deoxygenation or conversion of, to nucleotide derivs.)

RN 100644-70-0 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-1,5-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



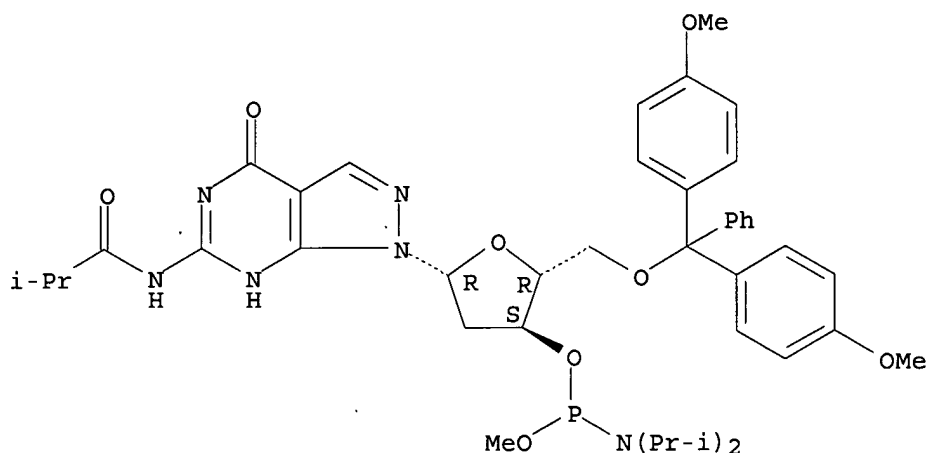
IT 118907-75-8P 118907-76-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of, for synthesis of oligonucleotides)

RN 118907-75-8 CAPLUS

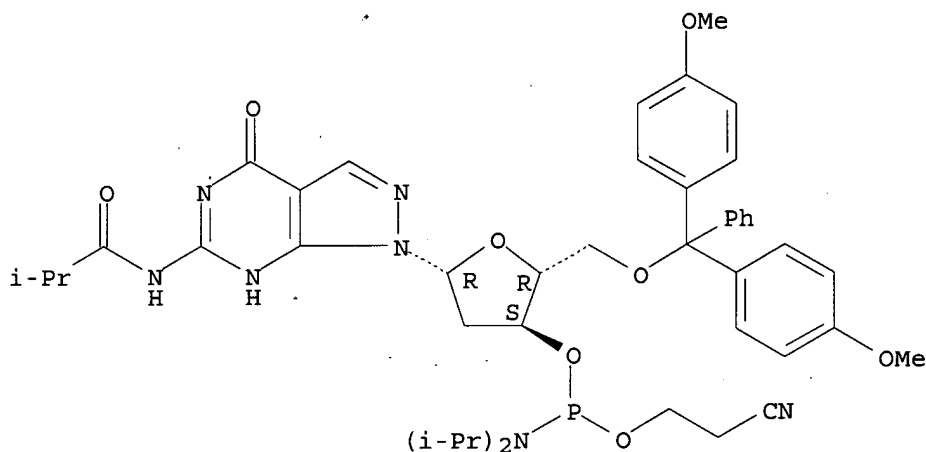
CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 118907-76-9 CAPLUS  
 CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



=> d his

(FILE 'HOME' ENTERED AT 14:45:51 ON 19 AUG 2003)

FILE 'REGISTRY' ENTERED AT 14:46:00 ON 19 AUG 2003

L1 STRUCTURE UPLOADED  
 L2 5 S L1 SSS SAM  
 L3 102 S L1 SSS FULL

FILE 'CAPLUS, MEDLINE' ENTERED AT 14:59:56 ON 19 AUG 2003

L4 47 S L3  
 L5 0 S L3 AND PHOSPHORAMIDITE NUCLEOSIDE  
 L6 3 S L3 AND PHOSPHORAMIDITE  
 L7 3 DUP REM L6 (0 DUPLICATES REMOVED)  
 L8 3 S L3 AND PHOSPHORAMIDITES  
 L9 30 S L3 AND NUCLEOSIDE  
 L10 5 S L9 AND PHOSP?

L21 ANSWER 1 OF 4 USPATFULL on STN

ACCESSION NUMBER: 2003:113672 USPATFULL  
TITLE: Process for the synthesis of pyrazolopyrimidines  
INVENTOR(S): Dempcy, Robert O., Kirkland, WA, UNITED STATES  
Adams, A. David, Snohomish, WA, UNITED STATES  
Reed, Michael W., Seattle, WA, UNITED STATES  
PATENT ASSIGNEE(S): Epoch Biosciences, Inc., Bothell, WA (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003078413	A1	20030424
APPLICATION INFO.:	US 2001-954624	A1	20010912 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834		
NUMBER OF CLAIMS:	43		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1015		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a nucleoside comprising a pyrazolopyrimidine base and a process for producing the same. In particular, the processes of the present invention comprises using a halogenated pyrazolopyrimidine base and removing the halogen after the base is coupled to a sugar moiety. The presence of the halogen on the nucleoside base allows facile and economical production of a large quantity of nucleosides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

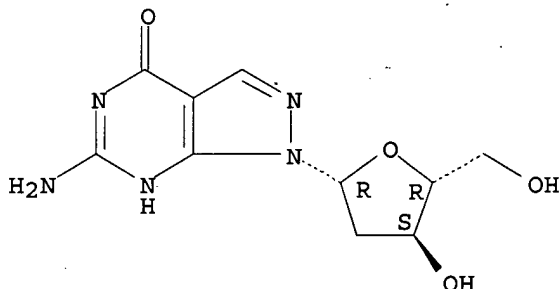
IT 100644-70-0P

(process for synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups)

RN 100644-70-0 USPATFULL

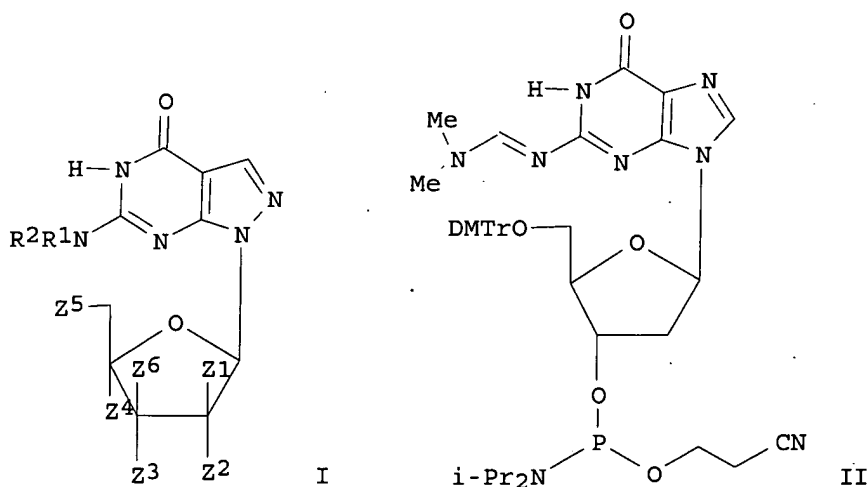
CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-1,5-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L23 ANSWER 3 OF 5 CA COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 138:221790 CA  
 TITLE: Process for the synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups  
 INVENTOR(S): Dempcy, Robert O.; Adams, A. David; Reed, Michael W.  
 PATENT ASSIGNEE(S): Epoch Biosciences, Inc., USA  
 SOURCE: PCT Int. Appl., 34 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003022859	A2	20030320	WO 2002-US28476	20020905
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003078413	A1	20030424	US 2001-954624	20010912
PRIORITY APPLN. INFO.:			US 2001-954624	A 20010912
OTHER SOURCE(S):		CASREACT 138:221790; MARPAT 138:221790		
GI				



AB The present invention provides a **nucleosides** comprising a pyrazolopyrimidine base I and a process for producing the same. In particular, the processes of the present invention comprises using a halogenated pyrazolopyrimidine base and removing the **halogen** after the base is coupled to a sugar moiety. The presence of the **halogen** on the **nucleoside** base allows facile and economical prodn. of a large quantity of **nucleosides**. Thus, II

was prepd. via halogenation reaction and using photolabile hydroxy protecting groups.

IT 100644-70-0P

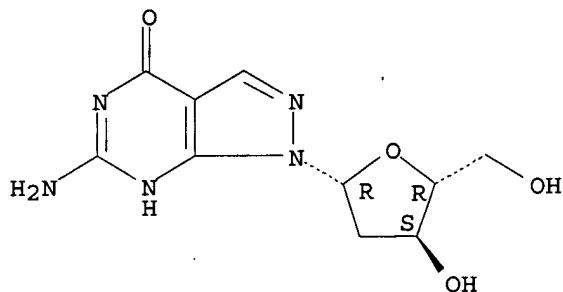
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(process for synthesis of pyrazolopyrimidine **nucleosides** via halogenation reaction and using photolabile hydroxy protecting groups)

RN 100644-70-0 CA

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-1,5-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L23' ANSWER 2 OF 5 CA COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 139:53258 CA

TITLE: Solid phase synthesis and combinatorial libraries of deazapurine nucleosides useful in the treatment of viral infections and neoplastic diseases

INVENTOR(S): Girardet, Jean-Luc; An, Haoyun; Chamakura, Varaprasad; Gunic, Esmir; Hong, Zhi

PATENT ASSIGNEE(S): Ribapharm Inc., USA

SOURCE: PCT Int. Appl., 59 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

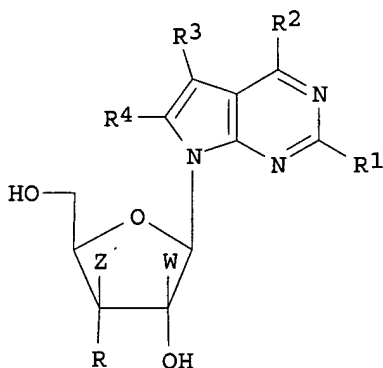
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003051899	A1	20030626	WO 2002-US40416	20021217
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2001-342410P P 20011217

OTHER SOURCE(S): MARPAT 139:53258

GI



AB Deazapurine nucleoside analogs I, wherein R is H, OH; R1-R4 are independently H, halogen, NH2, NHR', R', CN, CONH2, N3, CH2CN; R' is substituted alkyl, unsubstituted alkyl, substituted aryl, and an unsubstituted aryl; W and Z are independently hydrogen, N3, NH2, OH, SH, R5, or NHR5 wherein R5 is an alkyl, substituted alkyl, alkenyl, a substituted alkenyl, alkynyl, substituted alkynyl, aryl, substituted aryl; are prepd. in a combinatorial library approach. Particularly preferred compds. and libraries include various 7-deazapurines, 9-deazapurines, and 7-deaza-8-azaguanosine as heterocyclic bases, and it is generally preferred that such nucleosides include a ribofuranose as the sugar moiety. It is further contemplated that compds. generated using

contemplated libraries may be useful in the treatment of various conditions, particularly viral infections and neoplastic diseases (no data). Thus, I (R = OH; R1 = R4 = Z = W = H; R2 = NHBn; R3 = Ph) was prepd. useful in the treatment of viral infections and neoplastic diseases.

IT 547754-42-7P

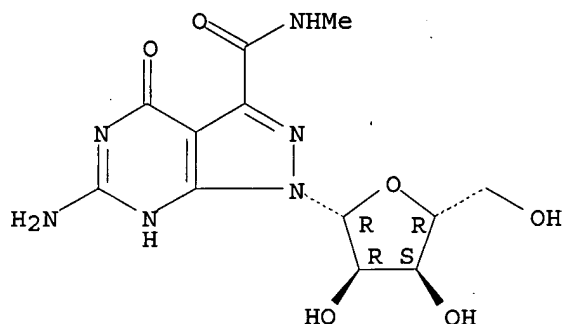
RL: CPN (Combinatorial preparation); CMBI (Combinatorial study); PREP (Preparation)

(solid phase synthesis and combinatorial libraries of deazapurine nucleosides useful in treatment of viral infections and neoplastic diseases)

RN 547754-42-7 CA

CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.



IT 547754-41-6DP, 4-methoxytrityl resin support 547754-42-7DP

, 4-methoxytrityl resin support

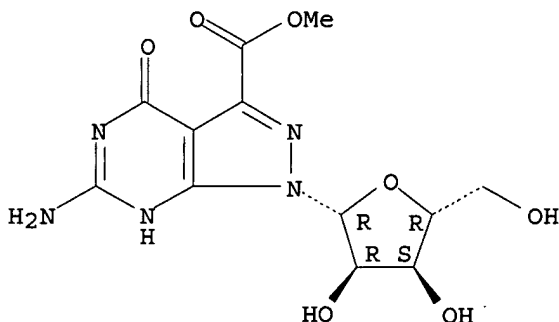
RL: CPN (Combinatorial preparation); CRT (Combinatorial reactant); RCT (Reactant); CMBI (Combinatorial study); PREP (Preparation); RACT (Reactant or reagent)

(solid phase synthesis and combinatorial libraries of deazapurine nucleosides useful in treatment of viral infections and neoplastic diseases)

RN 547754-41-6 CA

CN INDEX NAME NOT YET ASSIGNED

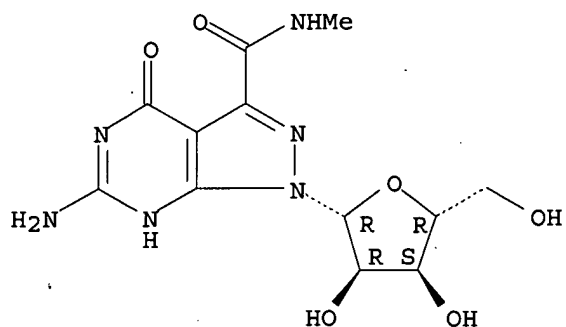
Absolute stereochemistry.



RN 547754-42-7 CA

CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.



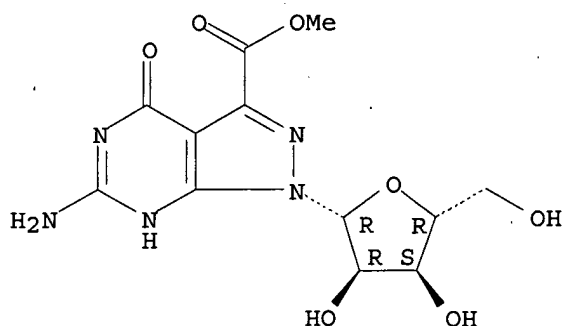
IT 547754-41-6

RL: CRT (Combinatorial reactant); RCT (Reactant); CMBI (Combinatorial study); RACT (Reactant or reagent)  
 (solid phase synthesis and combinatorial libraries of deazapurine nucleosides useful in treatment of viral infections and neoplastic diseases)

RN 547754-41-6 CA

CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.



REFERENCE COUNT:

3

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1999:693428 CAPLUS

DOCUMENT NUMBER: 132:64475

TITLE: Oligonucleotides containing pyrazolo[3,4-d]pyrimidines: the influence of 7-substituted 8-aza-7-deaza-2'-deoxyguanosines on the duplex structure and stability

AUTHOR(S): Seela, Frank; Becher, Georg

CORPORATE SOURCE: Laboratorium fur Organische und Bioorganische Chemie, Institut fur Chemie, Universitat Osnabruck, Osnabruck, D-49069, Germany

SOURCE: Helvetica Chimica Acta (1999), 82(10), 1640-1655

CODEN: HCACAV; ISSN: 0018-019X

PUBLISHER: Verlag Helvetica Chimica Acta

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Oligonucleotides contg. 7-substituted 8-aza-7-deazaguanines (= 6-amino-1,5-dihydro-4H-pyrazolo[3,4-d]pyrimidin-4-ones) were prepd. by automated solid-phase synthesis. A series of 7-alkynylated 8-aza-7-deaza-2'-deoxyguanosines were synthesized with the 7-iodonucleoside as starting material and by the Pd0/CuI-catalyzed cross-coupling reaction with various alkynes. **Phosphoramidites** were prepd. from the 7-substituted 8-aza-7-deaza-2'-deoxyguanosine derivs. carrying halogeno, cyano, and hexynyl substituents. From the melting profiles of oligonucleotide duplexes, the Tm values as well as the thermodyn. data were detd. A significant duplex stabilization by the 7-substituents was obsd. for the DNA .cntdot. DNA duplexes, but not in the case of DNA .cntdot. RNA hybrids.

IT 118907-80-5DP, self-complementary duplex 121742-44-7DP, self-complementary duplex 215178-29-3DP, self-complementary duplex 215178-31-7DP, self-complementary duplex 215178-32-8DP, self-complementary duplex 215178-35-1DP, self-complementary duplex 215178-36-2DP, self-complementary duplex 252761-75-4DP, self-complementary duplex 252761-76-5DP, self-complementary duplex 252761-77-6DP, self-complementary duplex 252761-78-7DP, self-complementary duplex

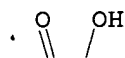
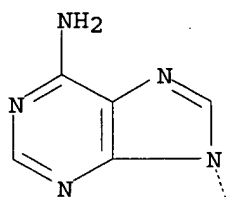
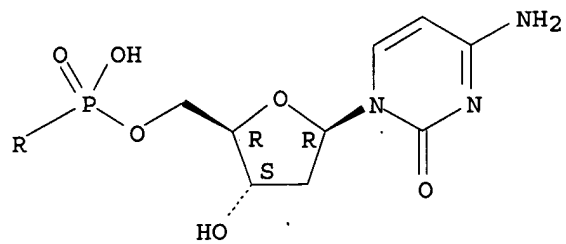
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (prepn. of oligonucleotides contg. pyrazolo[3,4-d]pyrimidines and the influence of substituted deazadeoxyguanosines on the duplex structure and stability)

RN 118907-80-5 CAPLUS

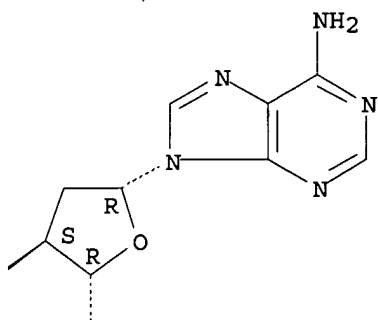
CN Cytidine, 2'-deoxy-8-aza-7-deazaguanilyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanilyl-(3'.fwdarw.5')-2'-deoxyadenilyl-(3'.fwdarw.5')-2'-deoxyadenilyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

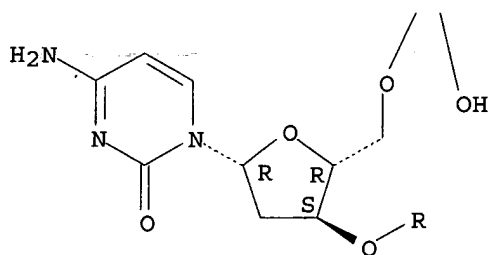
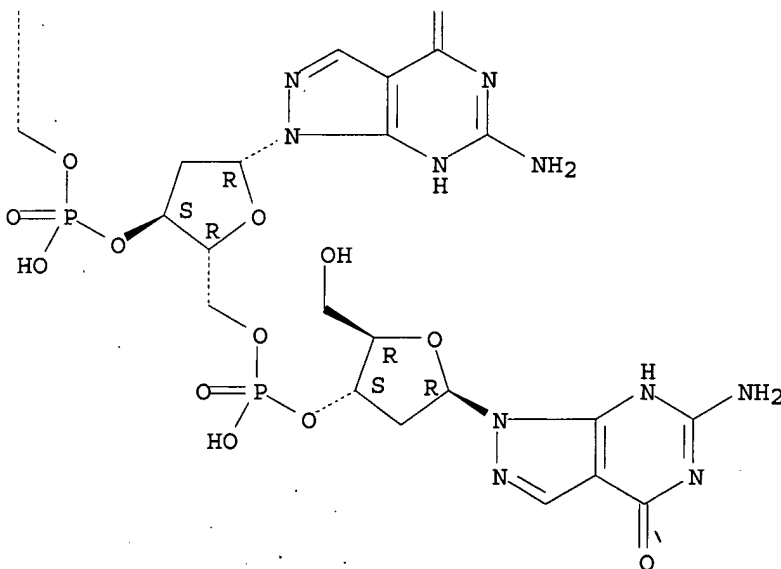
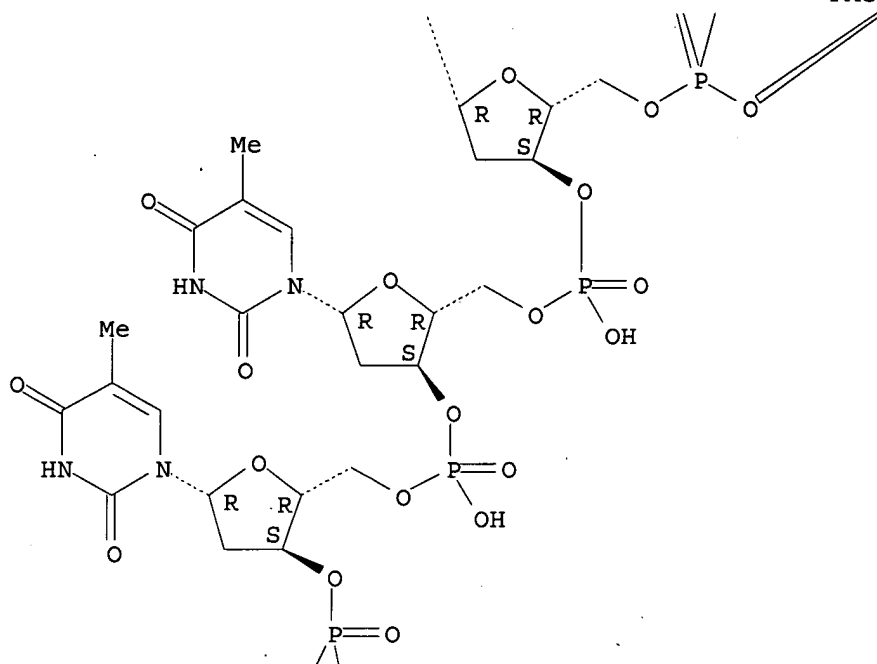
Absolute stereochemistry.

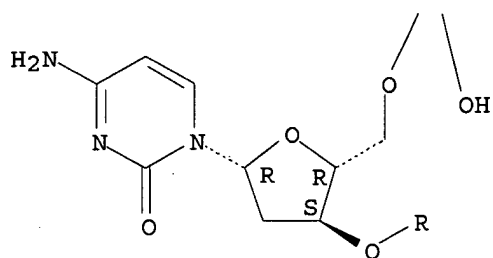
PAGE 1-A



PAGE 1-B



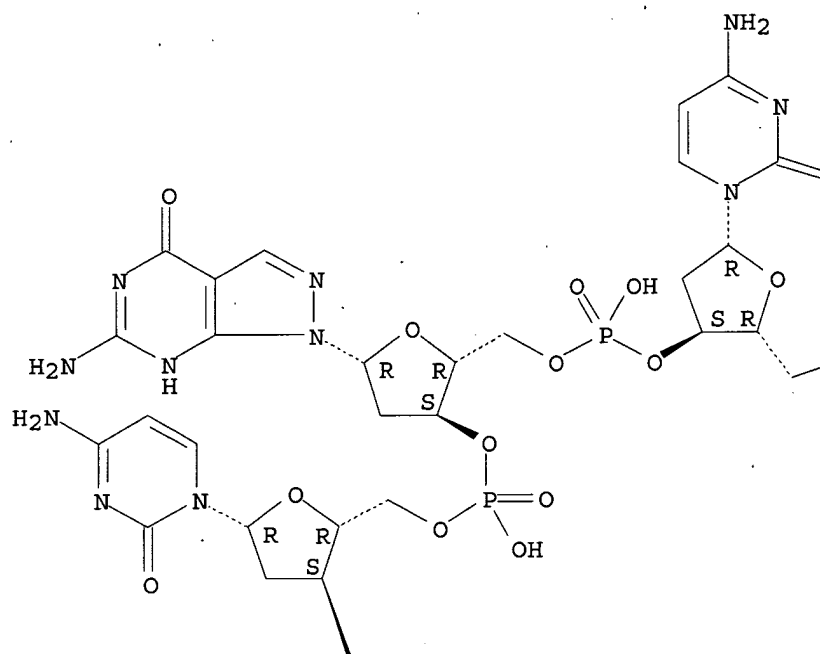


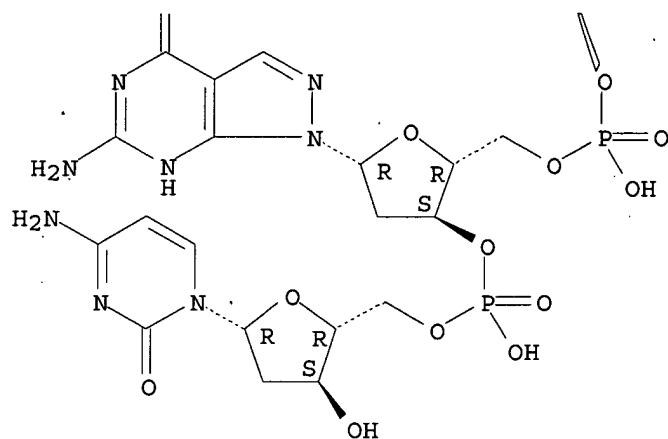
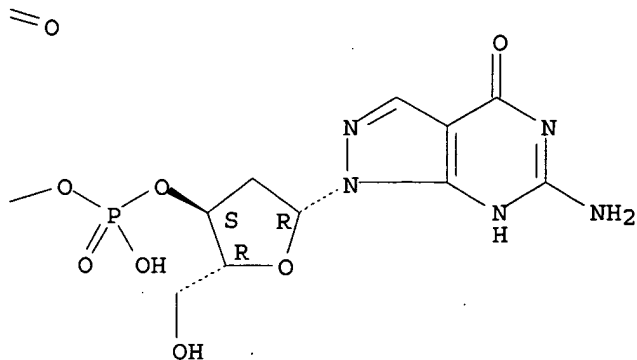


RN 121742-44-7 CAPLUS

RN 121/42-44-7 CAPLOS  
 CN Cytidine, 2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-  
 (3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-  
 deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-  
 (3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

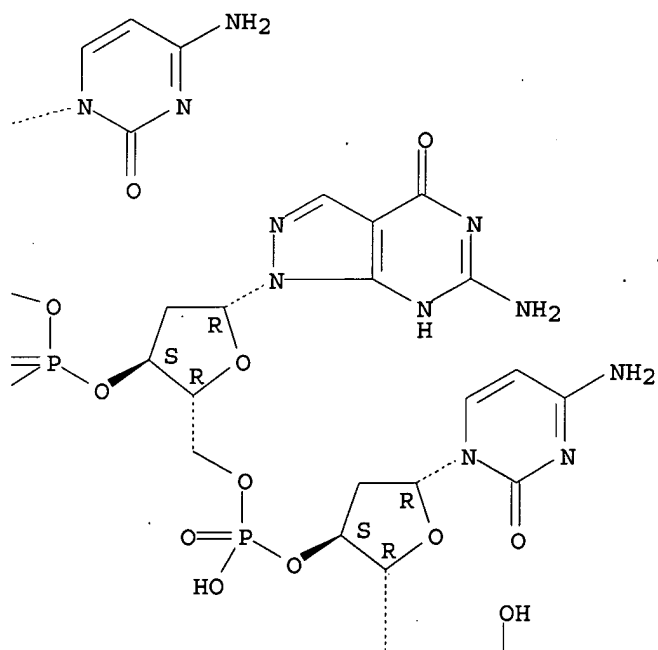
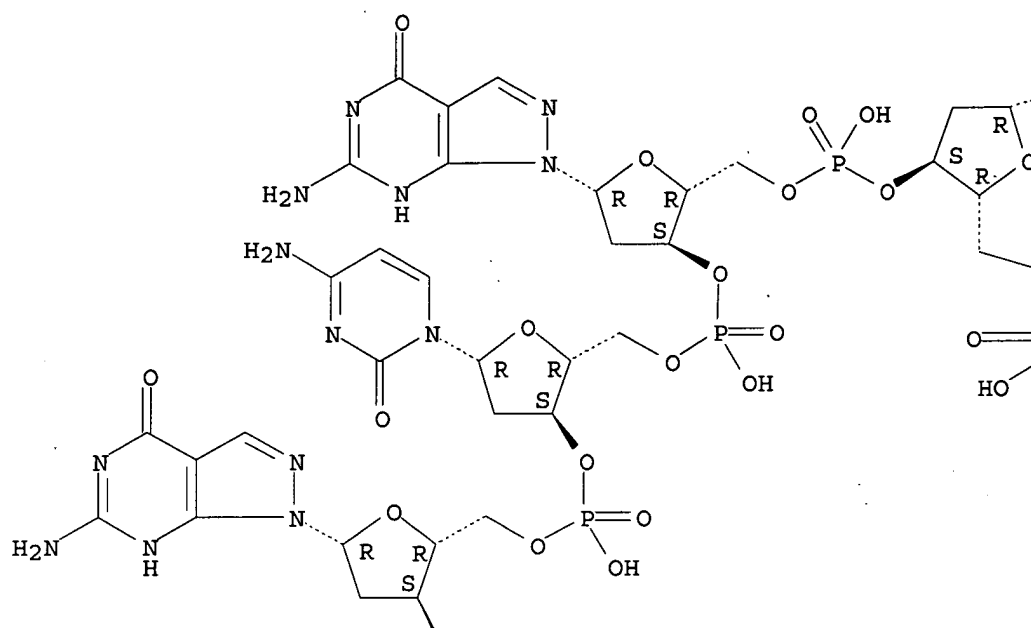
Absolute stereochemistry.

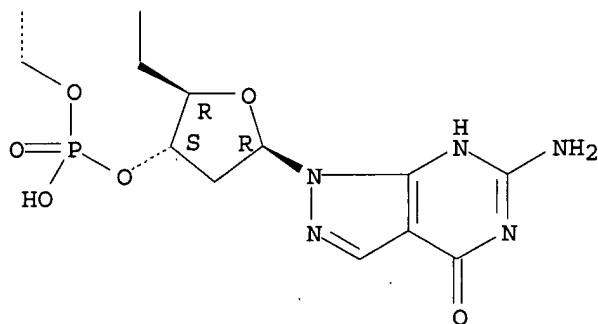
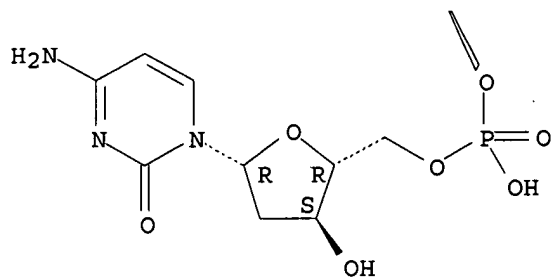




RN 215178-29-3 CAPLUS  
 CN Cytidine, 2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-  
 (3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-  
 deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-  
 (3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-  
 deazaguanylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

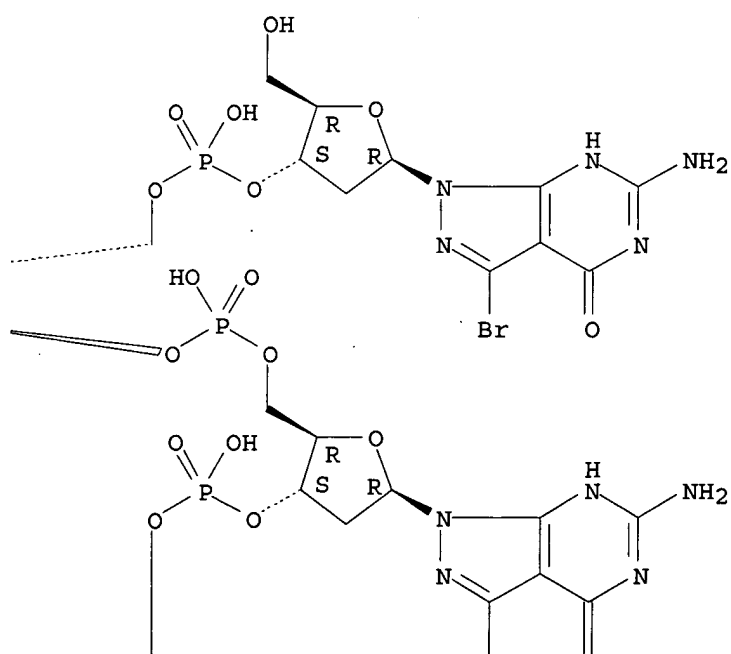
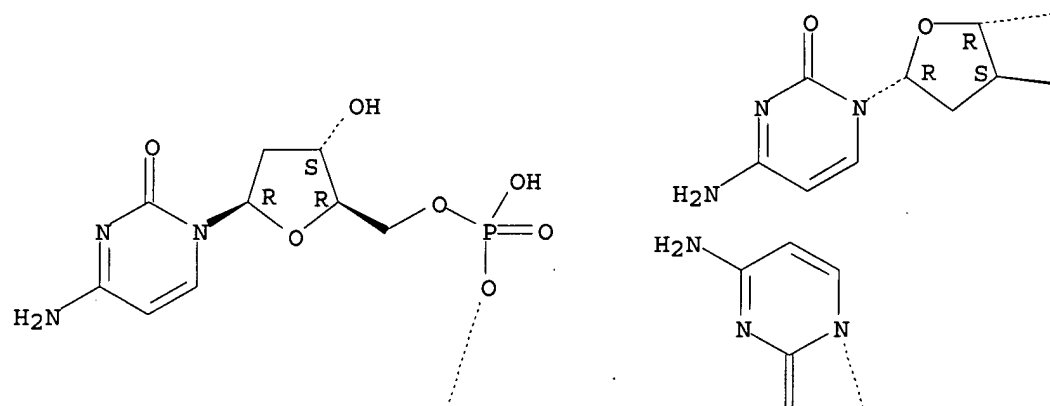


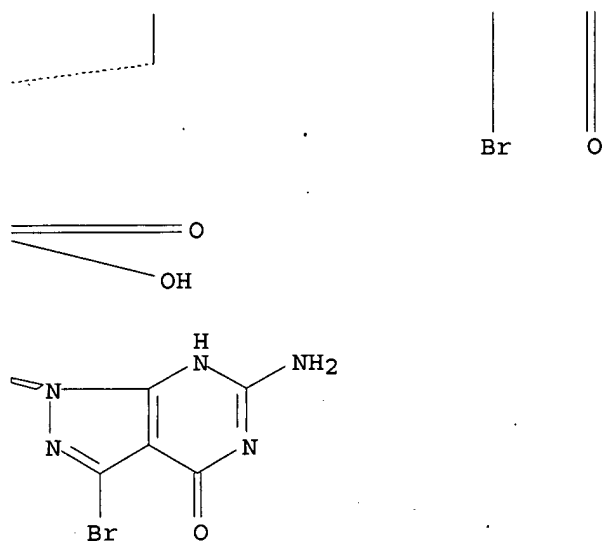
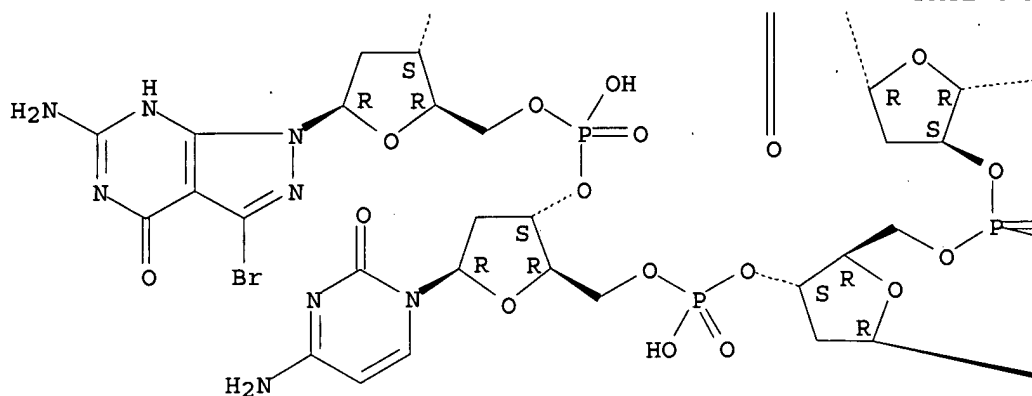


RN 215178-31-7 CAPLUS

CN Cytidine, 7-bromo-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-  
deoxycytidylyl-(3'.fwdarw.5')-7-bromo-2'-deoxy-8-aza-7-deazaguanylyl-  
(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-7-bromo-2'-deoxy-8-aza-7-  
deazaguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-7-bromo-2'-  
deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX  
NAME)

Absolute stereochemistry.

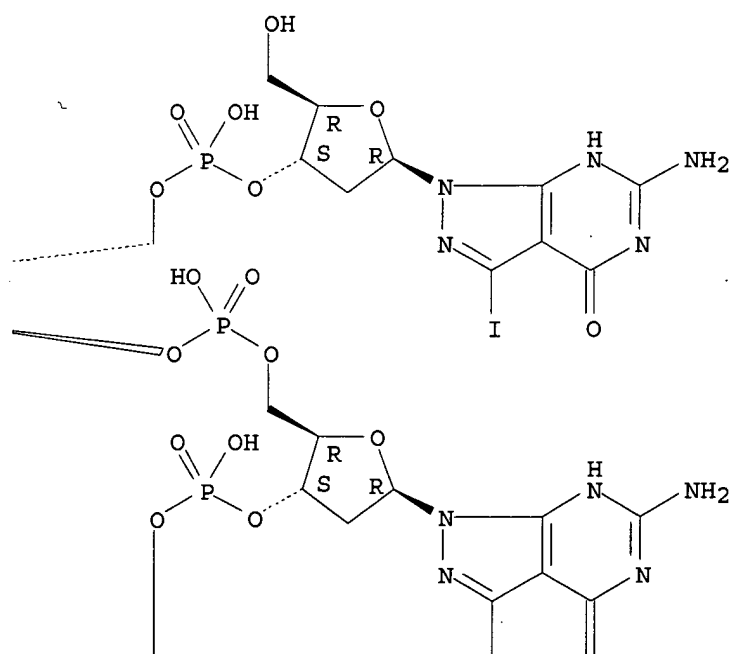
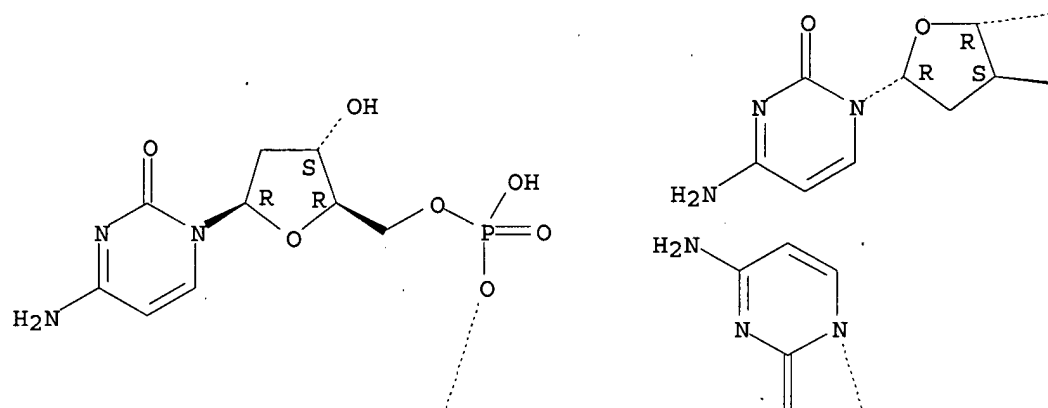


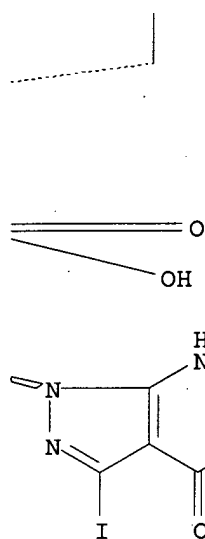
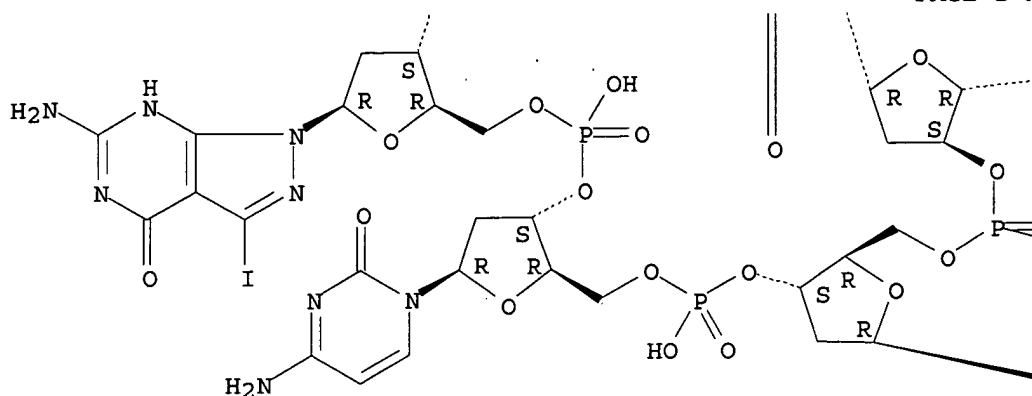


RN 215178-32-8 CAPLUS

215178 52 8 CA INDEX  
Cytidine, 2'-deoxy-7-iodo-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-  
deoxycytidyl- (3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguanylyl-  
(3'.fwdarw.5')-2'-deoxycytidyl- (3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-  
deazaguanylyl-(3'.fwdarw.5')-2'-deoxycytidyl- (3'.fwdarw.5')-2'-deoxy-7-  
iodo-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



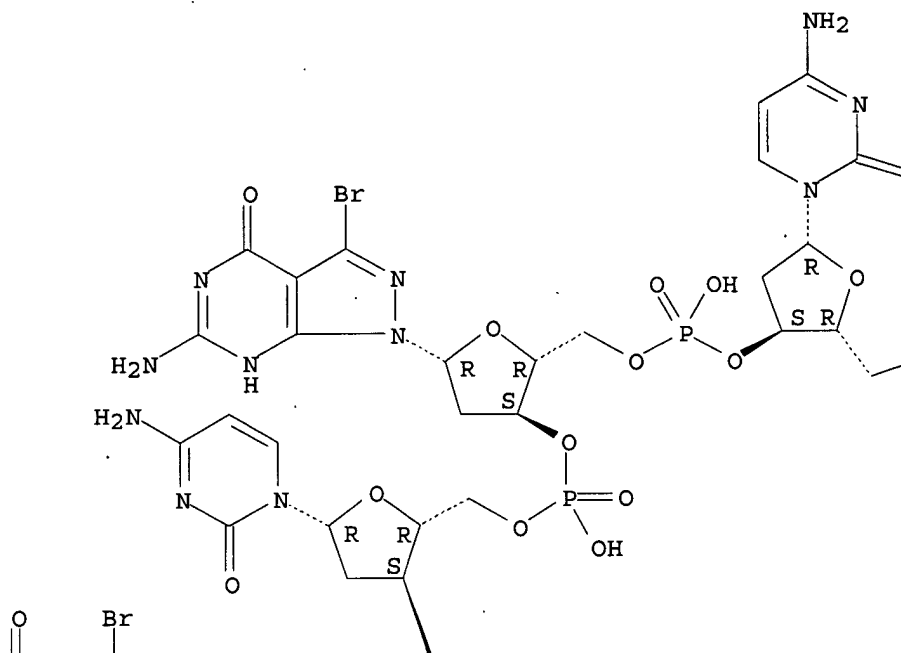


RN 215178-35-1 CAPLUS

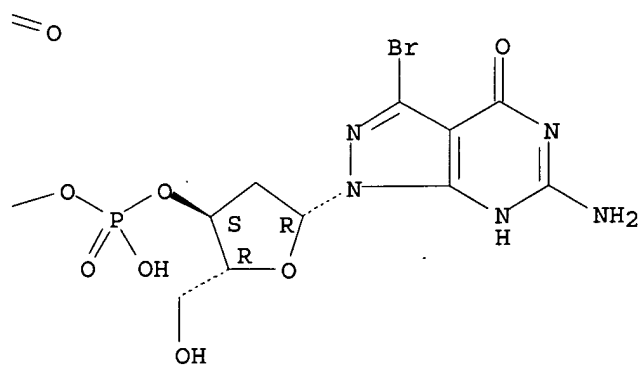
CN 215178 99 1 CA1805  
Cytidine, 7-bromo-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-  
deoxycytidylyl-(3'.fwdarw.5')-7-bromo-2'-deoxy-8-aza-7-deazaguanylyl-  
(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-7-bromo-2'-deoxy-8-aza-7-  
deazaguanylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

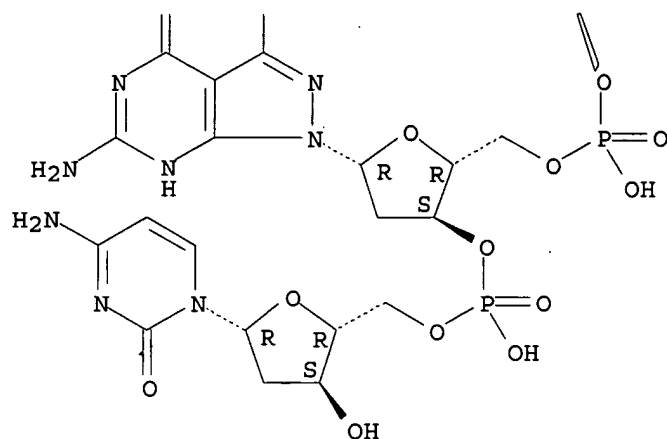
Absolute stereochemistry.

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PAGE 1-B

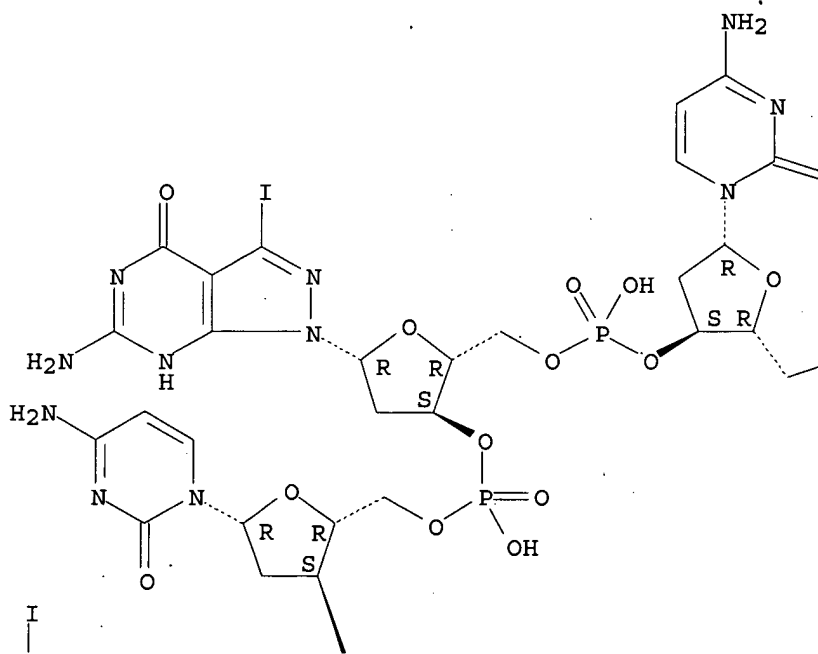


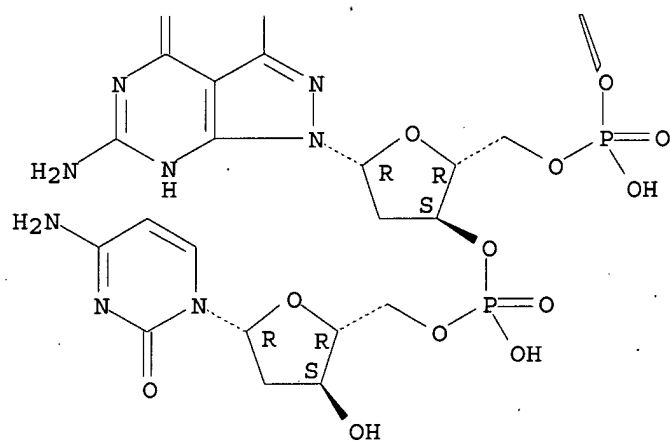
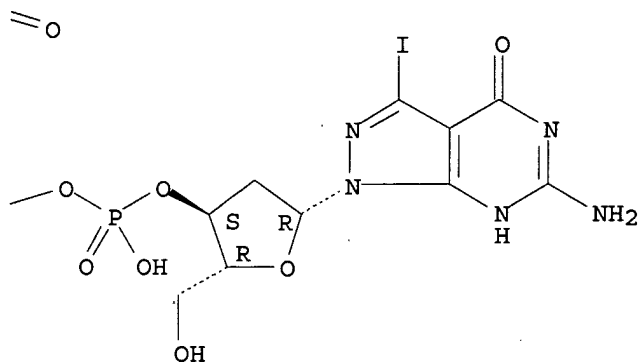


RN 215178-36-2 CAPLUS

CN Cytidine, 2'-deoxy-7-iodo-8-aza-7-deazaguanilyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguanilyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguanilyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



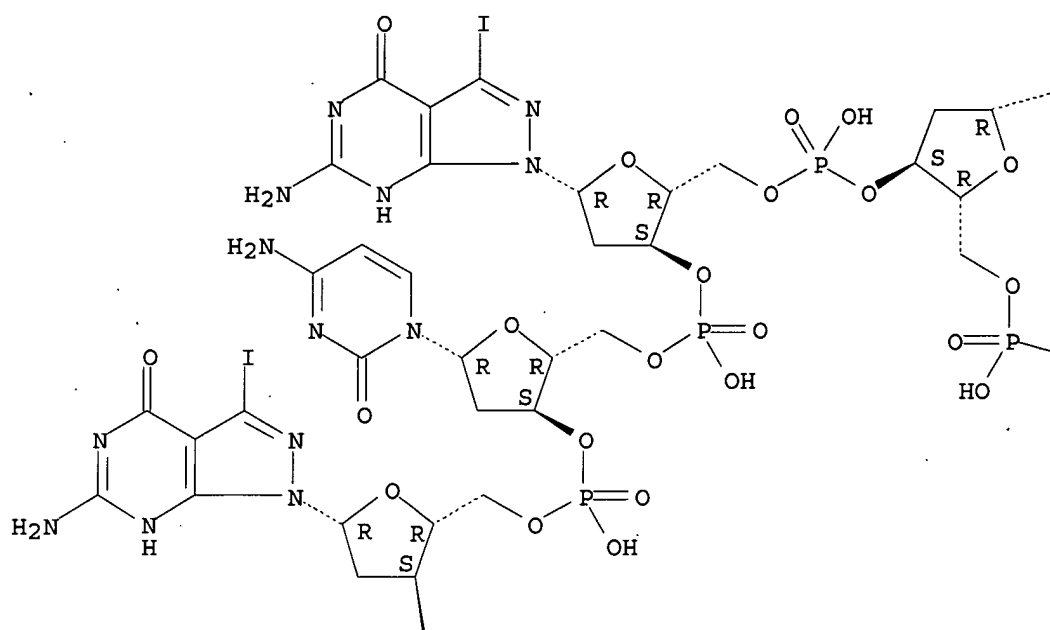


RN 252761-75-4 CAPLUS

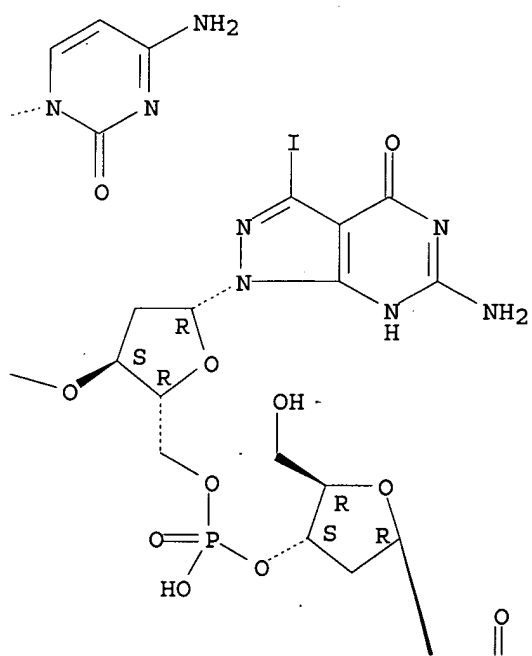
CN 8-Aza-7-deazaguanosine, 2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-  
 aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-  
 deoxy-7-iodo-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-  
 (3'.fwdarw.5')-2'-deoxy-7-iodo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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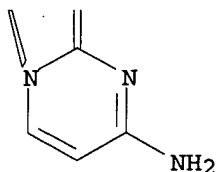
PAGE 1-B



PAGE 2-A



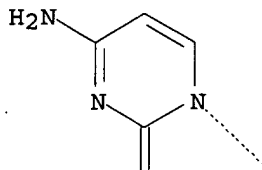
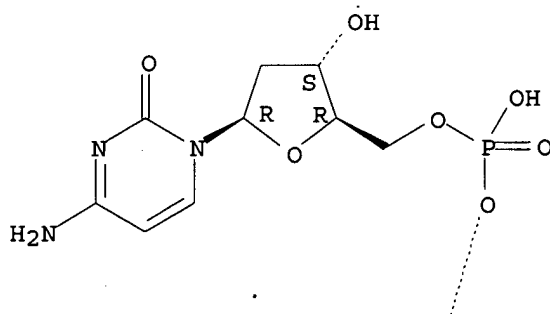
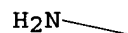
PAGE 2-B

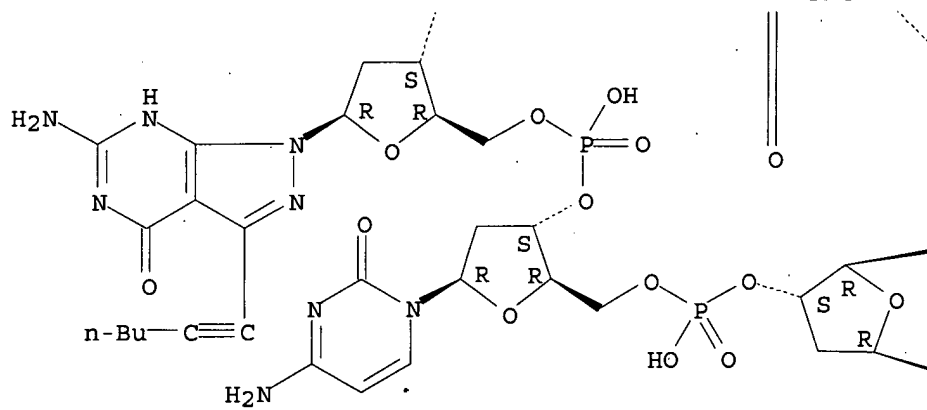
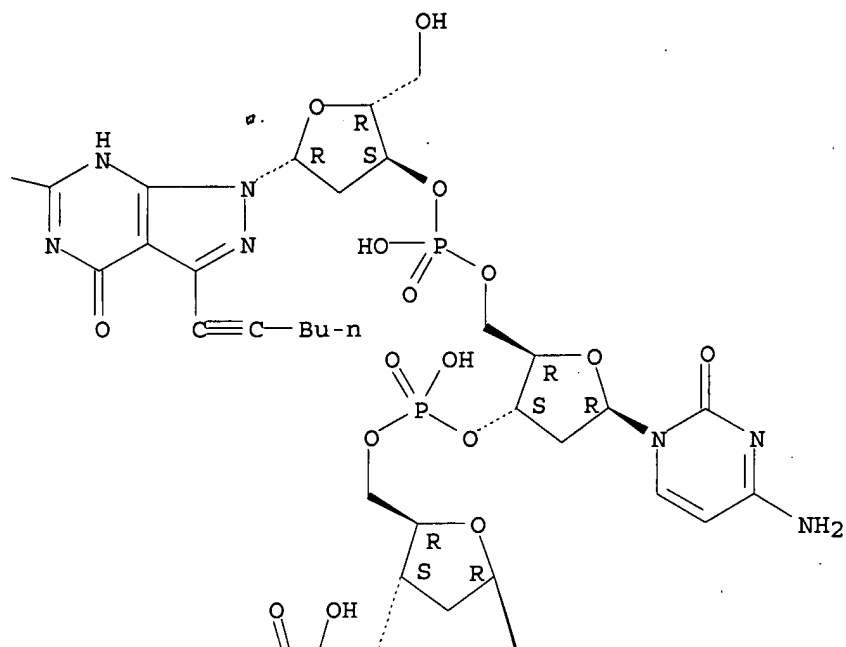


RN 252761-76-5 CAPLUS  
 CN Cytidine, 2'-deoxy-7-(1-hexynyl)-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-  
 deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-(1-hexynyl)-8-aza-7-deazaguanylyl-  
 (3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-(1-hexynyl)-8-  
 aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-  
 deoxy-7-(1-hexynyl)-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxy- (9CI)  
 (CA INDEX NAME)

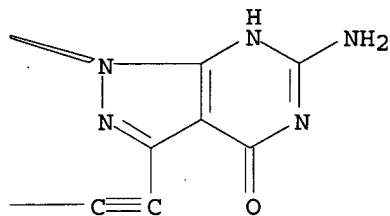
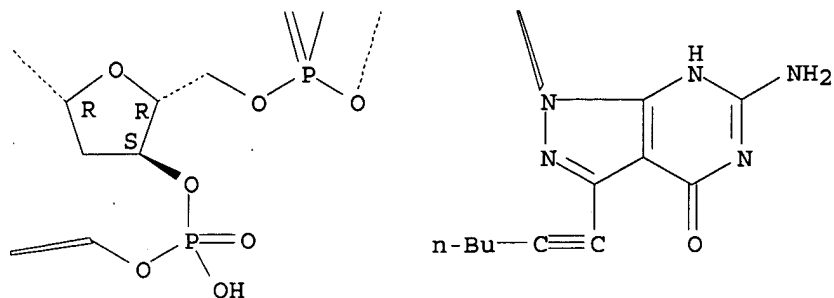
Absolute stereochemistry.

PAGE 1-A



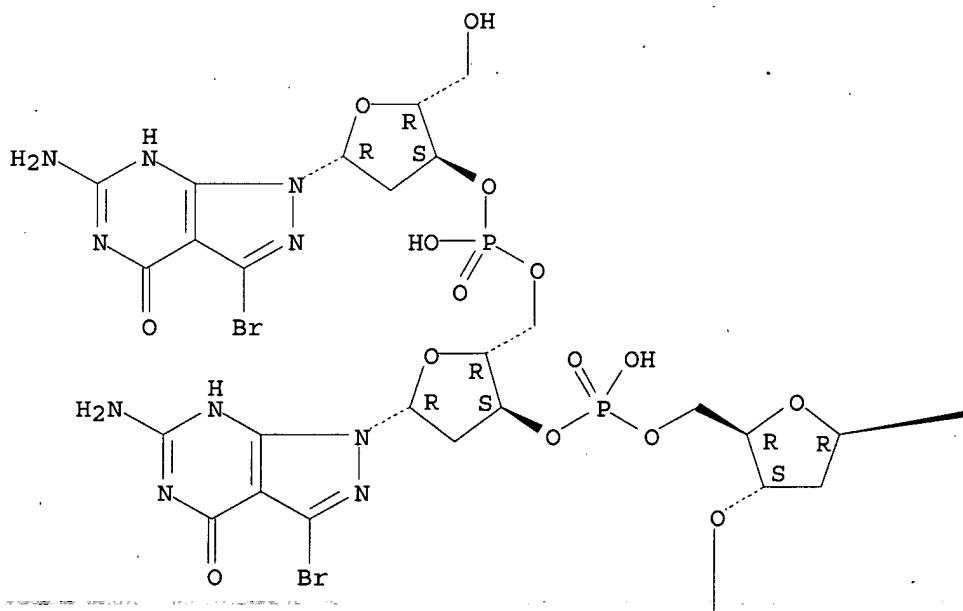


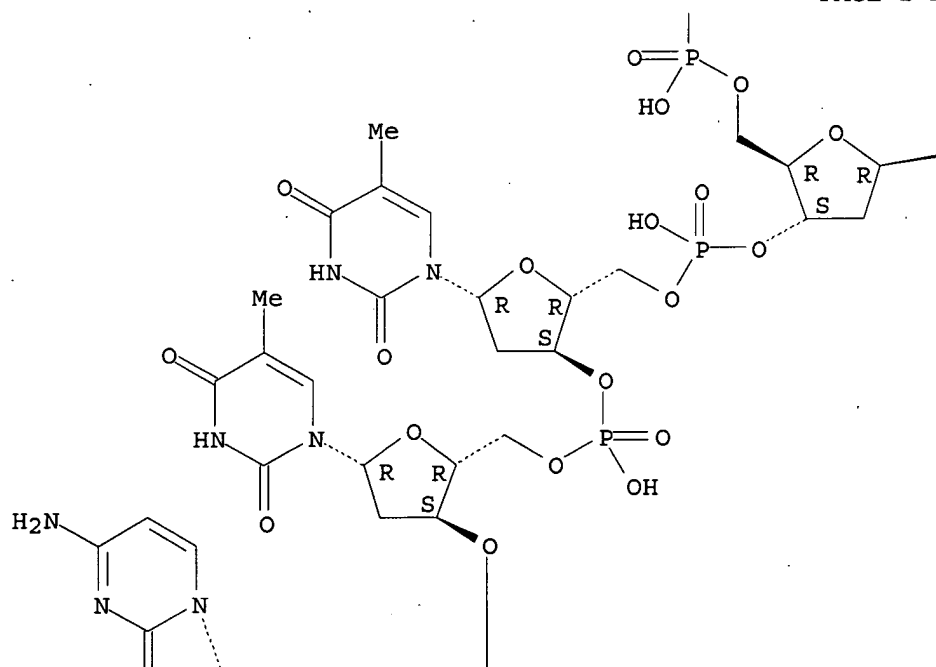
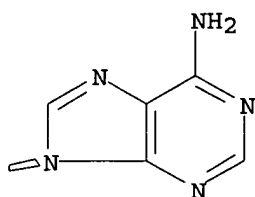
n-Bu—

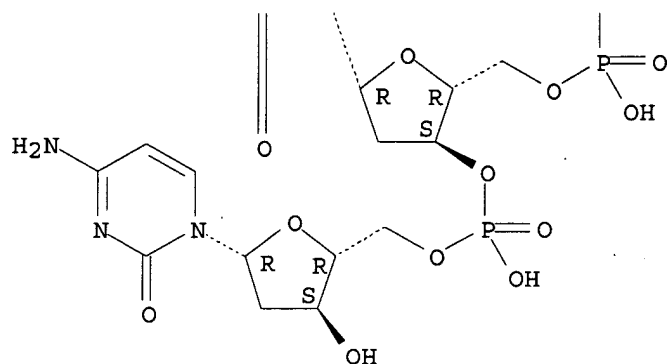
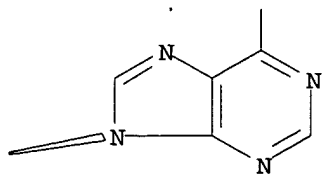


RN 252761-77-6 CAPLUS  
 CN Cytidine, 7-bromo-2'-deoxy-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-7-bromo-2'-deoxy-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



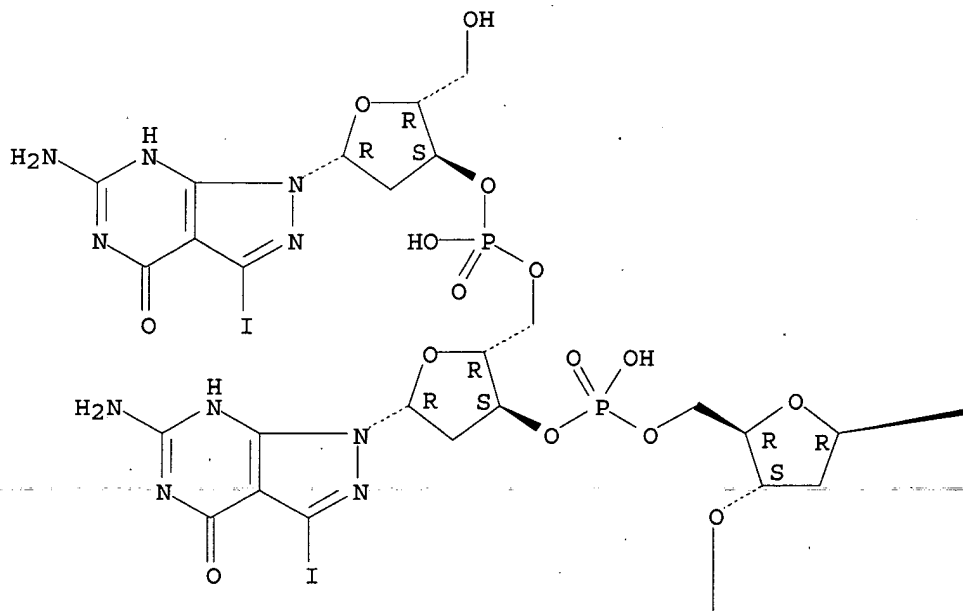


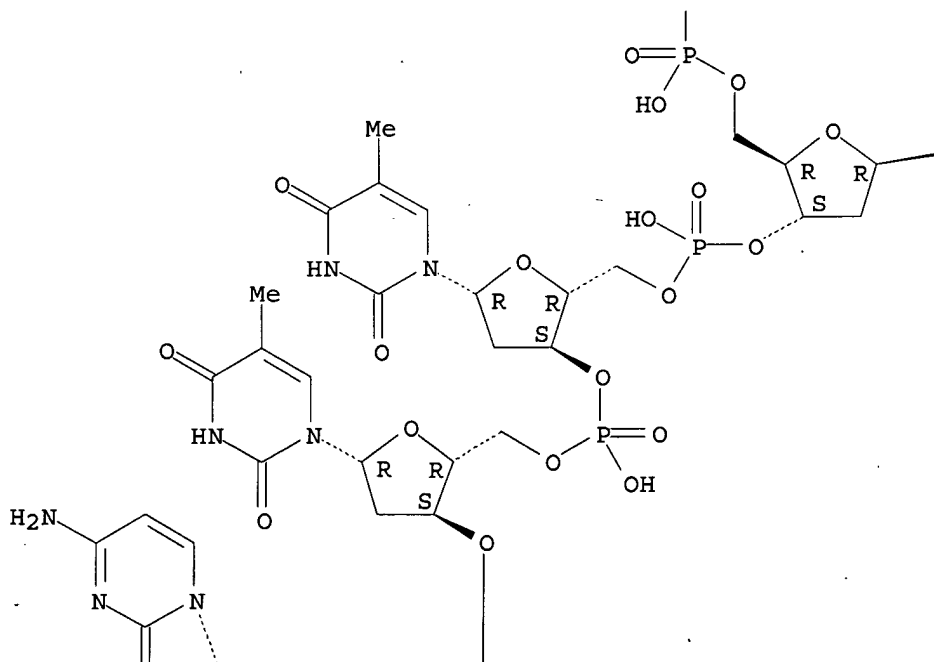
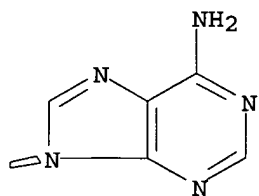


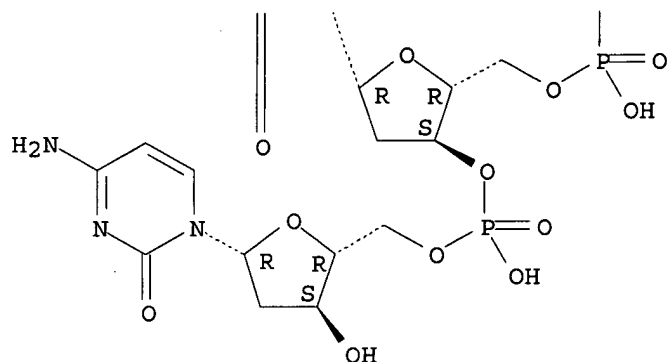
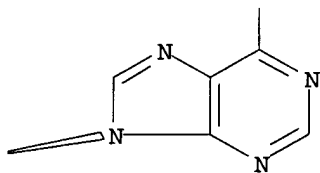
RN 252761-78-7 CAPLUS

CN Cytidine, 2'-deoxy-7-iodo-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.







IT 100644-70-0 118907-70-3 183274-52-4  
183274-53-5 214770-07-7 214770-12-4  
215178-26-0 215178-27-1 252761-82-3

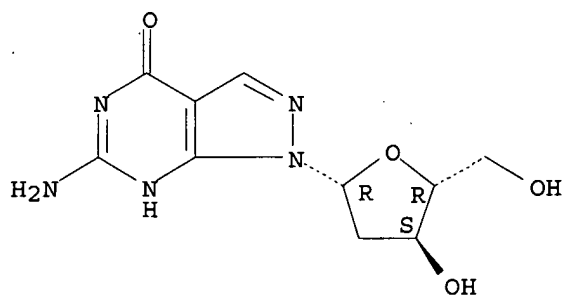
RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of oligonucleotides contg. pyrazolo[3,4-d]pyrimidines and the influence of substituted deazadeoxyguanosines on the duplex structure and stability)

RN 100644-70-0 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-1,5-dihydro- (9CI) (CA INDEX NAME)

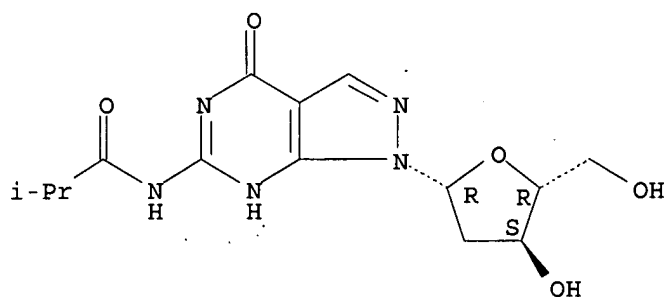
Absolute stereochemistry.



RN 118907-70-3 CAPLUS

CN Propanamide, N-[1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

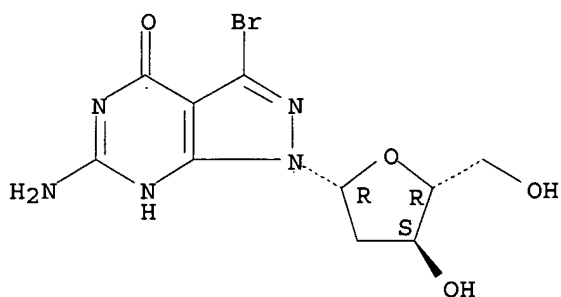
Absolute stereochemistry.



RN 183274-52-4 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-3-bromo-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-1,5-dihydro- (9CI) (CA INDEX NAME)

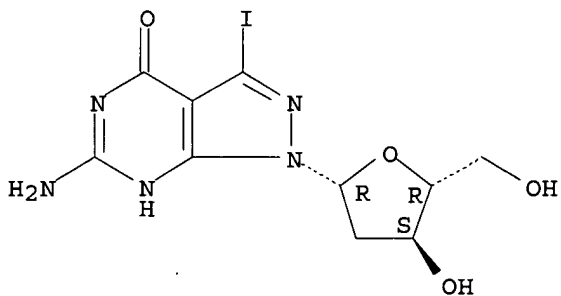
Absolute stereochemistry.



RN 183274-53-5 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-1,5-dihydro-3-iodo- (9CI) (CA INDEX NAME)

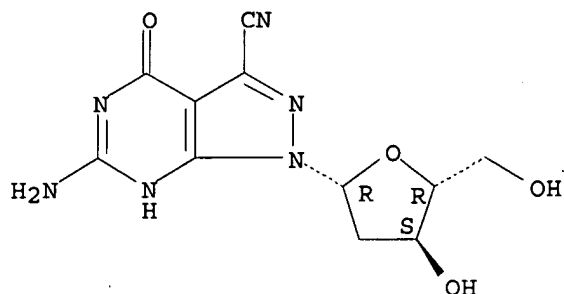
Absolute stereochemistry.



RN 214770-07-7 CAPLUS

CN 1H-Pyrazolo[3,4-d]pyrimidine-3-carbonitrile, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-4,5-dihydro-4-oxo- (9CI) (CA INDEX NAME)

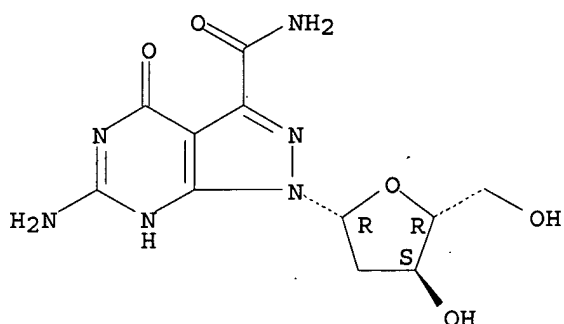
Absolute stereochemistry.



RN 214770-12-4 CAPLUS

CN 1H-Pyrazolo[3,4-d]pyrimidine-3-carboxamide, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-4,5-dihydro-4-oxo- (9CI) (CA INDEX NAME)

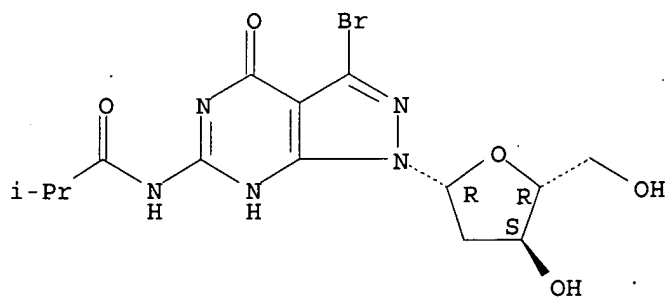
Absolute stereochemistry.



RN 215178-26-0 CAPLUS

CN Propanamide, N-[3-bromo-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

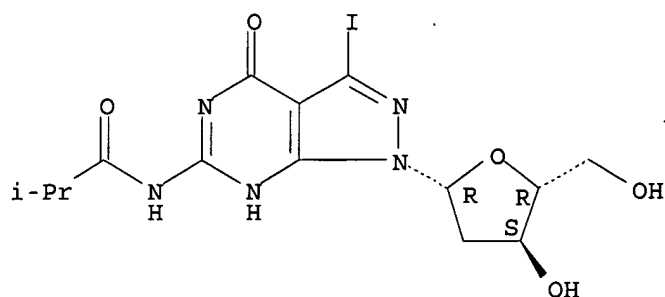
Absolute stereochemistry.



RN 215178-27-1 CAPLUS

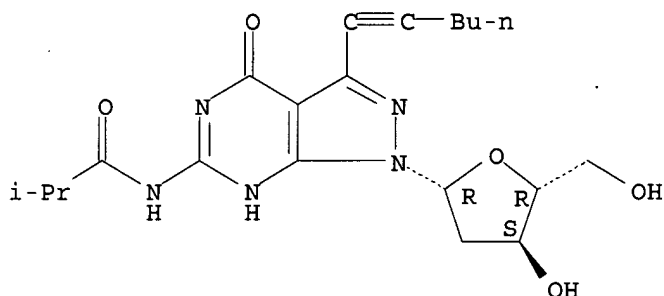
CN Propanamide, N-[1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-4,5-dihydro-3-iodo-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



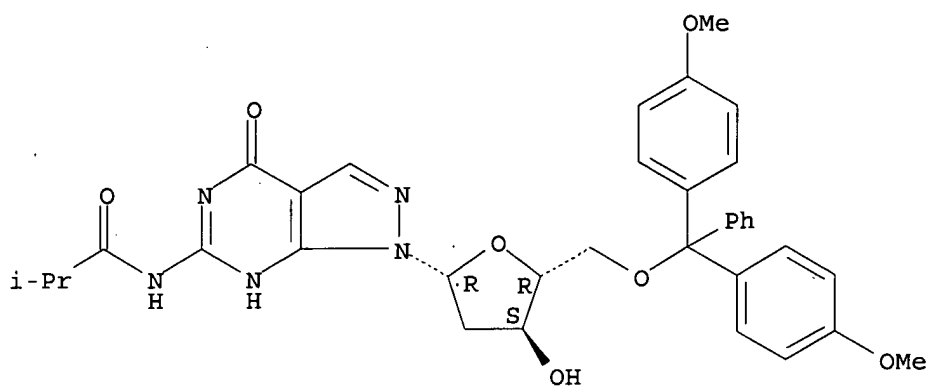
RN 252761-82-3 CAPLUS  
 CN Propanamide, N-[1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-3-(1-hexynyl)-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 118907-71-4P 118907-80-5P 121742-44-7P  
 215178-29-3P 215178-31-7P 215178-32-8P  
 215178-35-1P 215178-36-2P 215178-70-4P  
 215178-71-5P 252761-75-4P 252761-76-5P  
 252761-77-6P 252761-78-7P 252761-81-2P  
 252761-83-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. of oligonucleotides contg. pyrazolo[3,4-d]pyrimidines and the influence of substituted deazadeoxyguanosines on the duplex structure and stability)  
 RN 118907-71-4 CAPLUS  
 CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

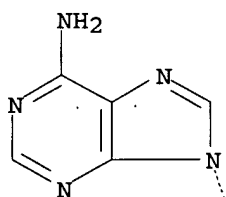
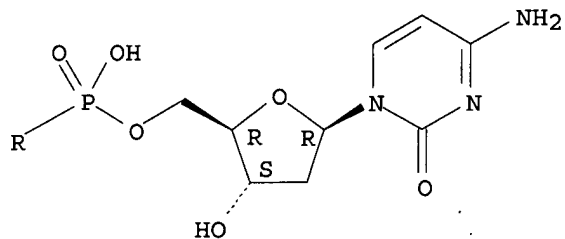
Absolute stereochemistry.

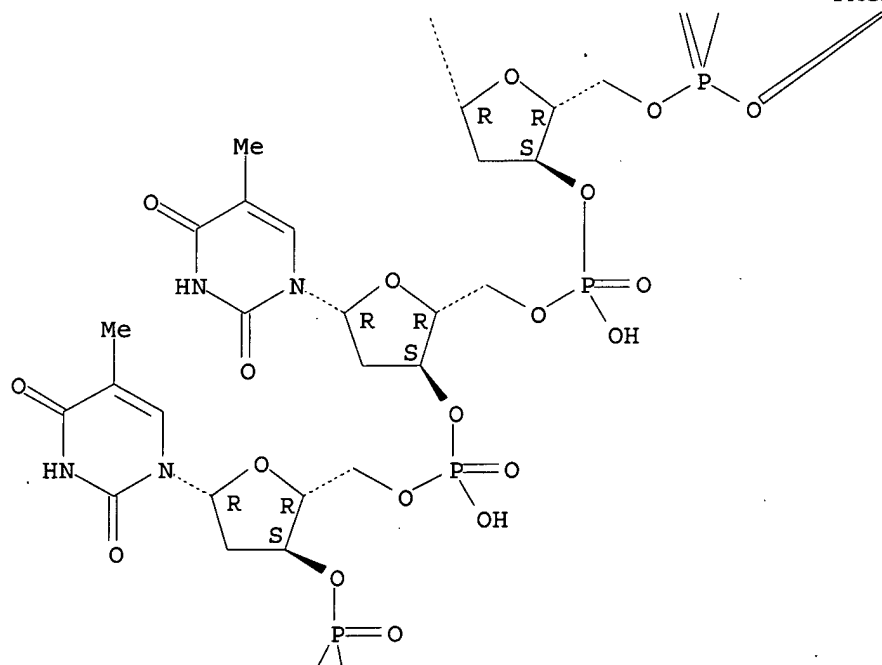
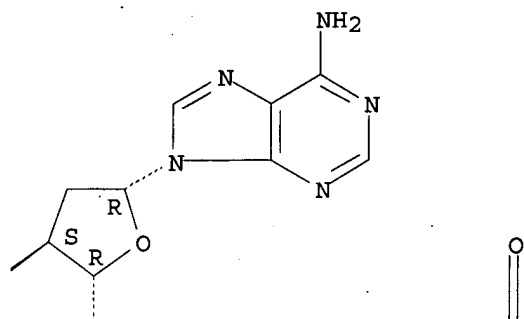


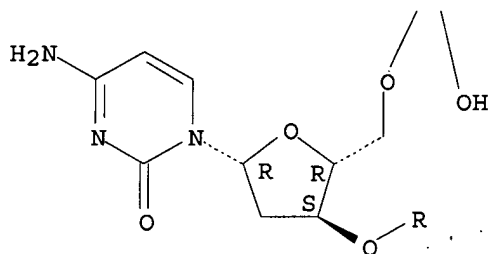
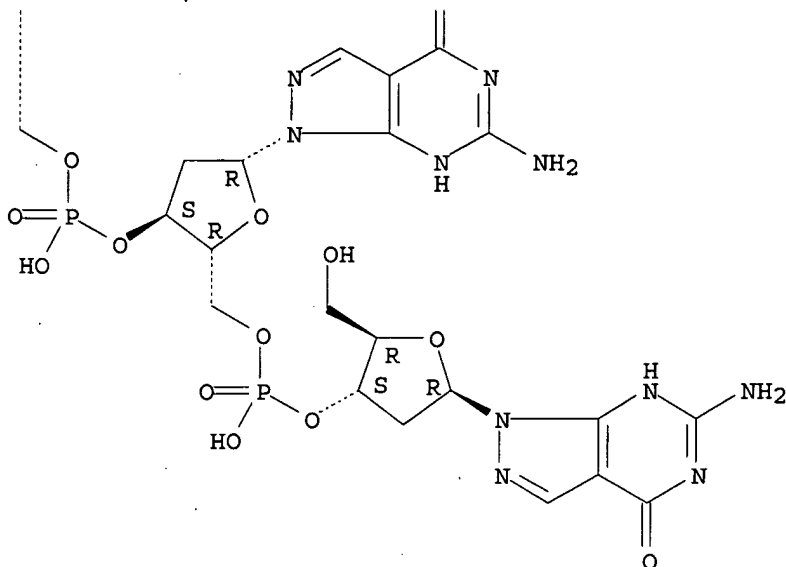
RN 118907-80-5 CAPLUS  
 CN Cytidine, 2'-deoxy-8-aza-7-deazaguanilyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanilyl-(3'.fwdarw.5')-2'-deoxyadenilyl-(3'.fwdarw.5')-2'-deoxyadenilyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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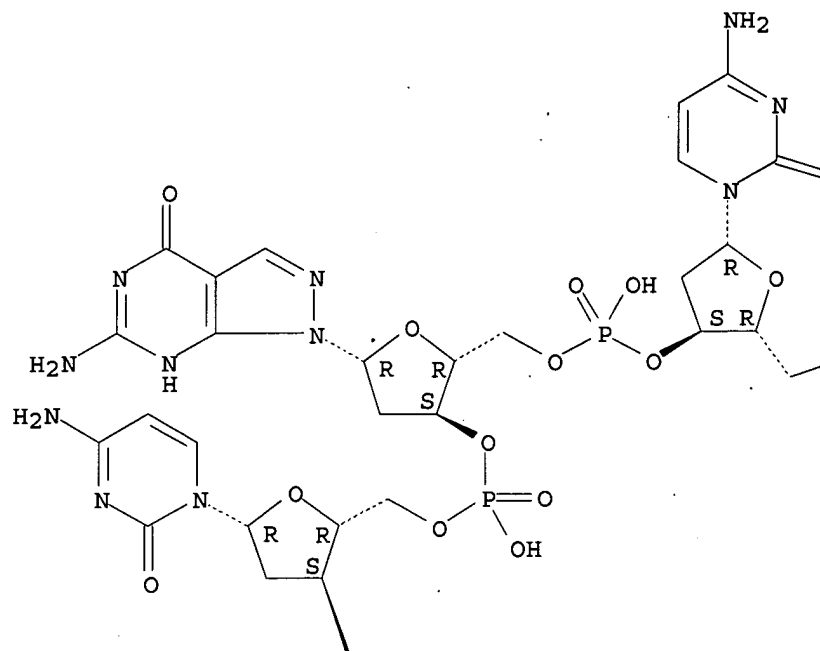


RN 121742-44-7 CAPLUS

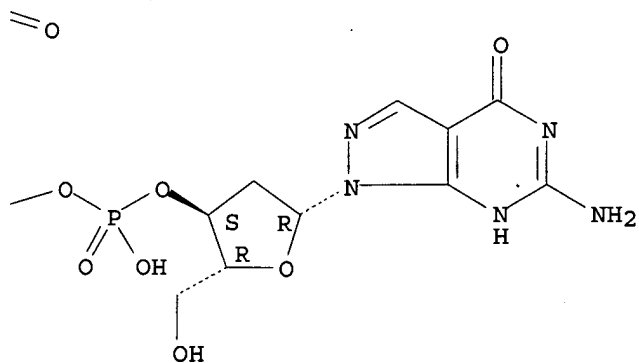
CN Cytidine, 2'-deoxy-8-aza-7-deazaguanyl-(3'.fwdarw.5')-2'-deoxycytidyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanyl-(3'.fwdarw.5')-2'-deoxycytidyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

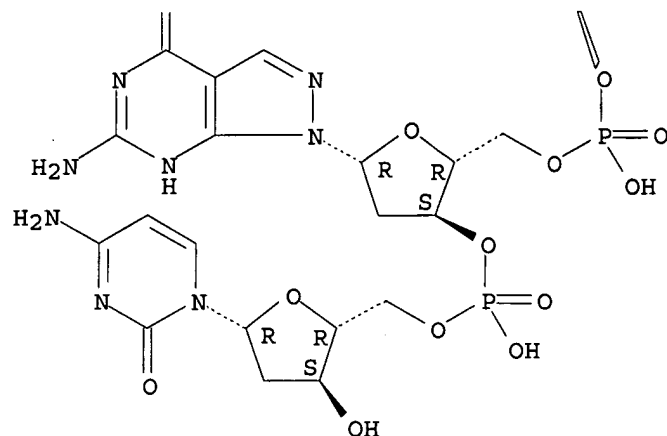
Absolute stereochemistry.

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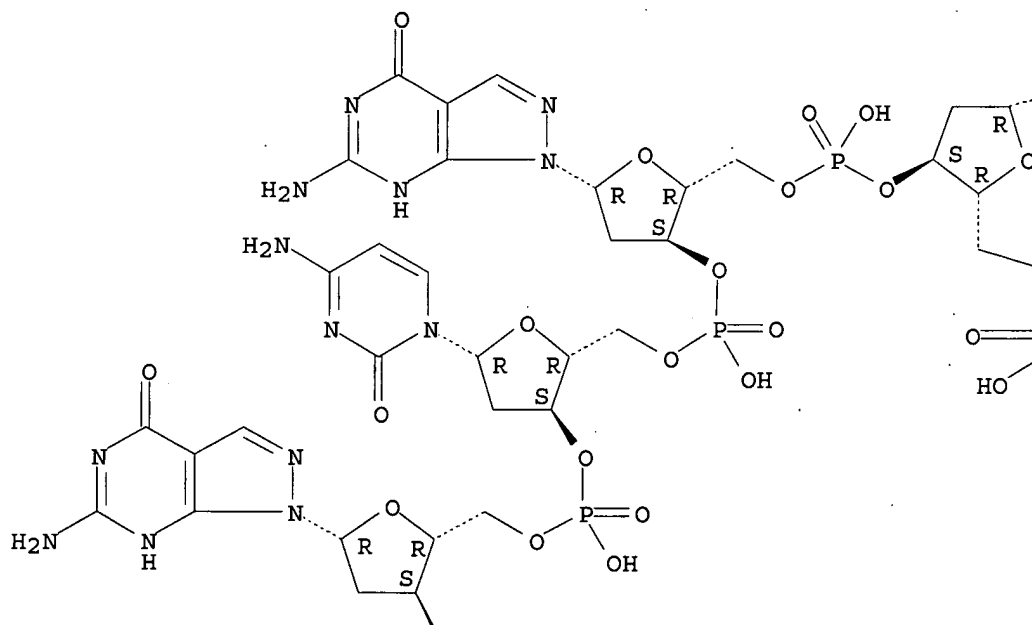


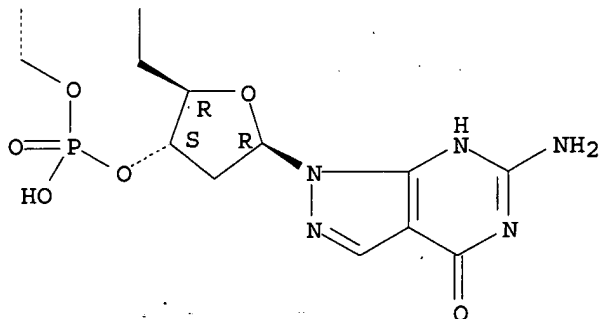
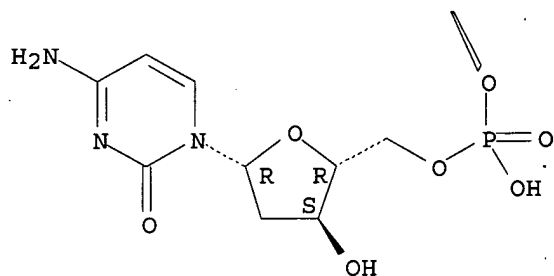
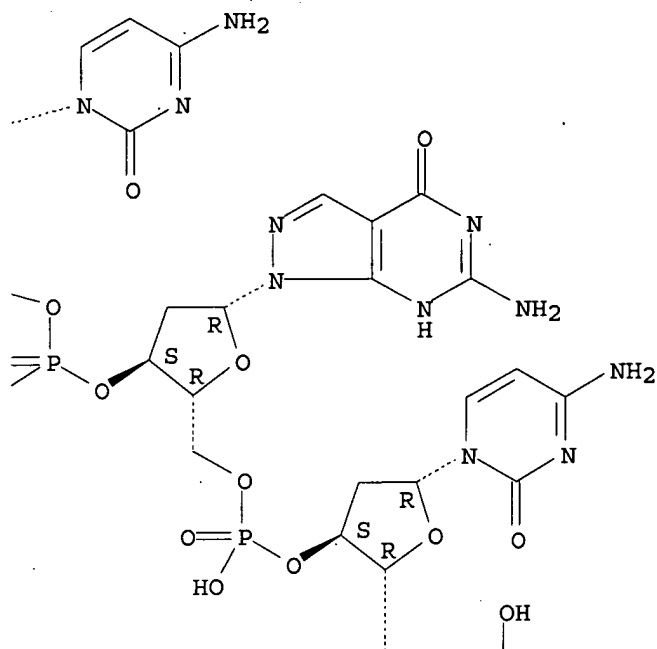


RN 215178-29-3 CAPLUS

CN Cytidine, 2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.





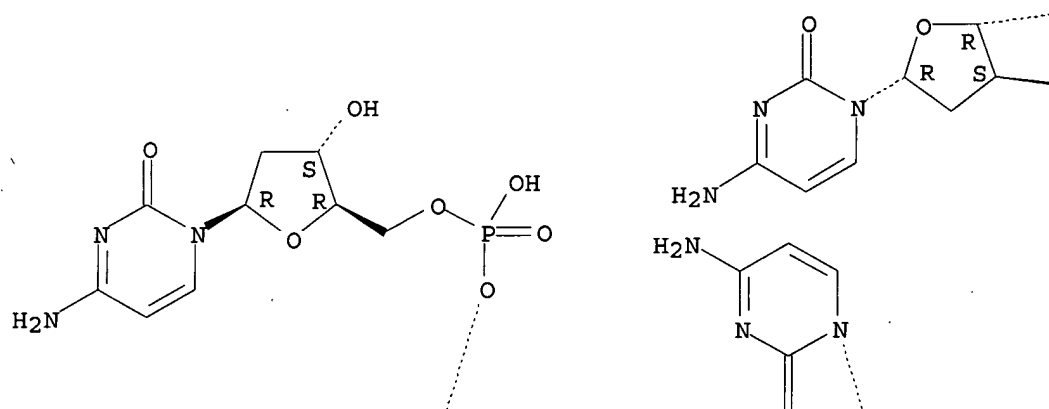
RN 215178-31-7 CAPLUS

CN Cytidine, 7-bromo-2'-deoxy-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-  
deoxycytidylyl-(3'.fwdarw.5')-7-bromo-2'-deoxy-8-aza-7-deazaguananylyl-  
(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-7-bromo-2'-deoxy-8-aza-7-  
deazaguananylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-7-bromo-2'-

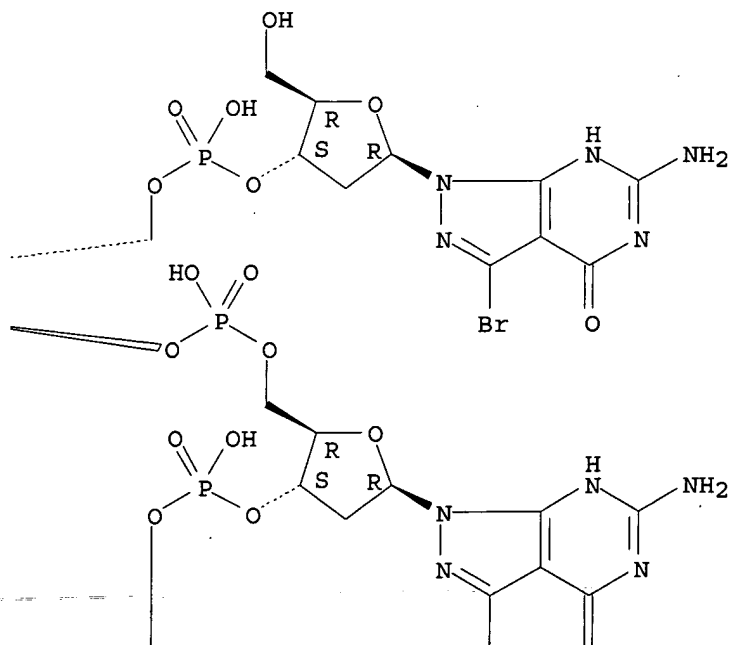
deoxy-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX  
NAME)

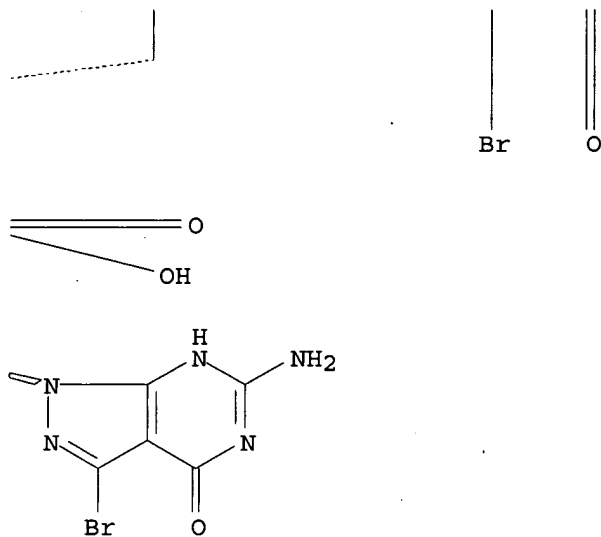
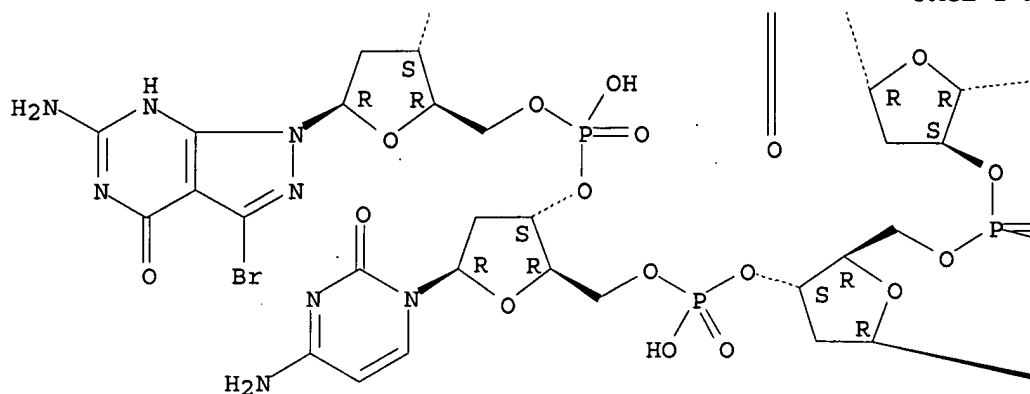
Absolute stereochemistry.

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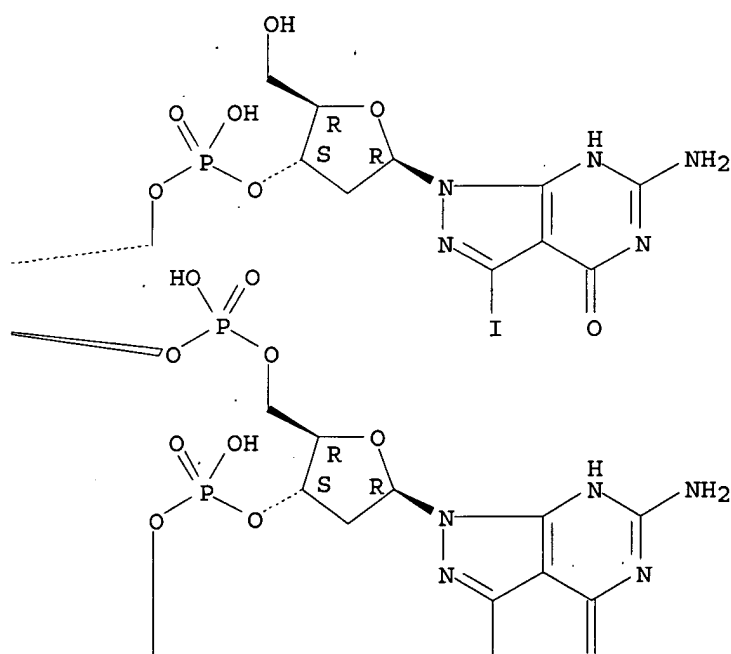
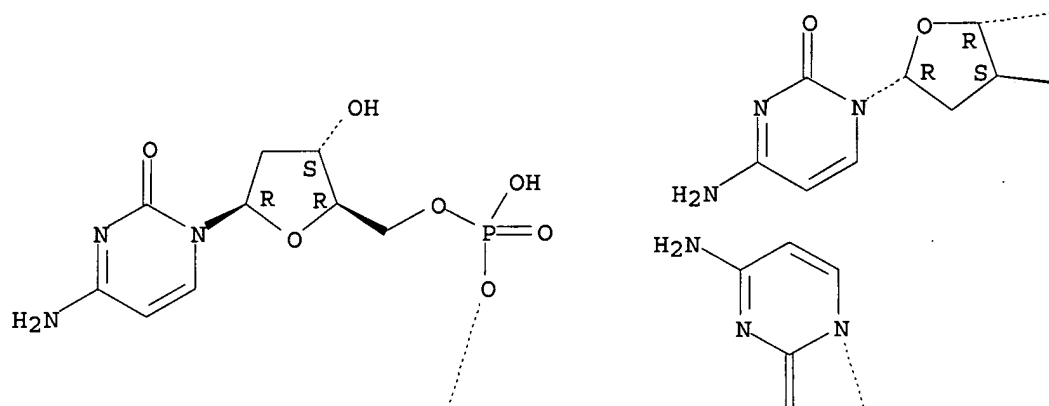


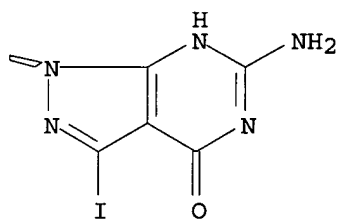
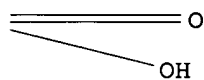
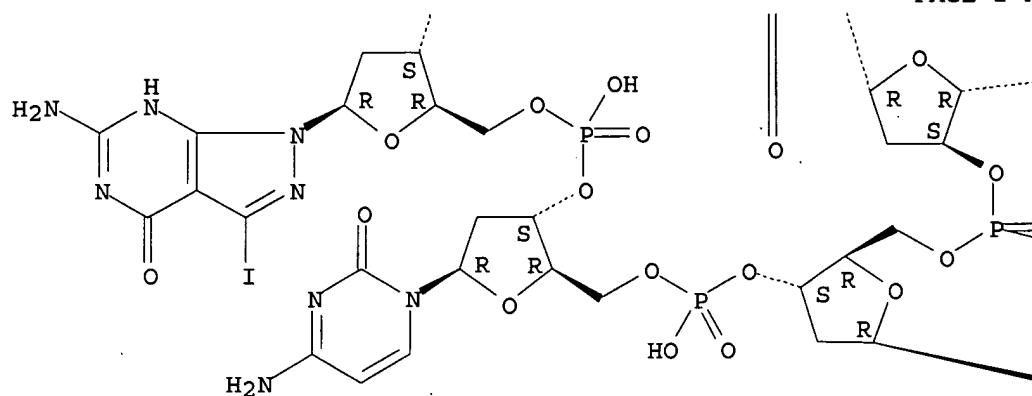


RN 215178-32-8 CAPLUS

CN Cytidine, 2'-deoxy-7-iodo-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



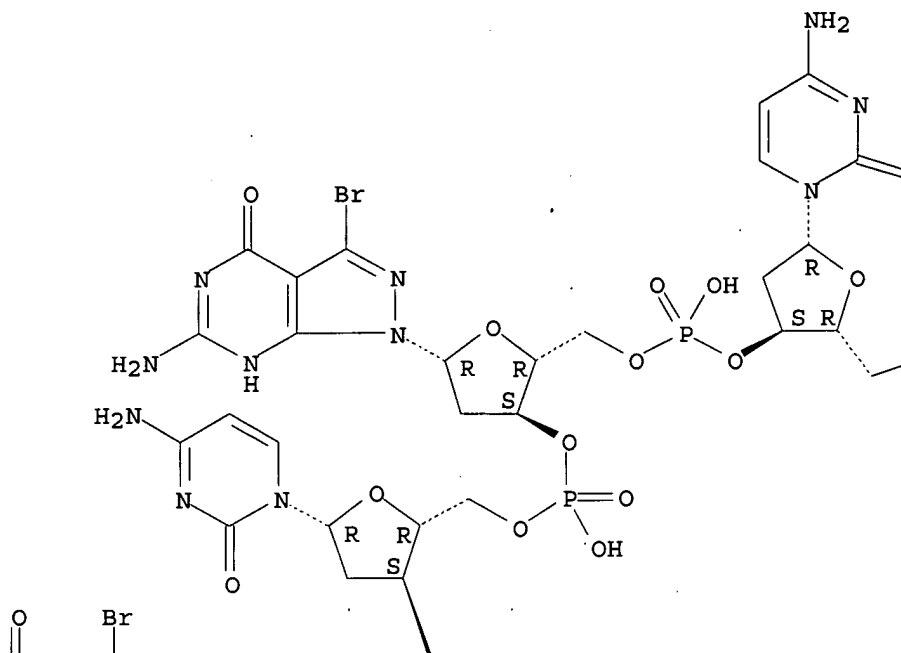


RN 215178-35-1 CAPLUS

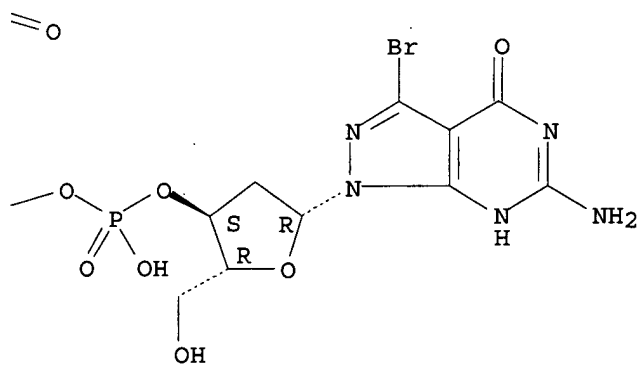
CN Cytidine, 7-bromo-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-  
deoxycytidylyl-(3'.fwdarw.5')-7-bromo-2'-deoxy-8-aza-7-deazaguanylyl-  
(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-7-bromo-2'-deoxy-8-aza-7-  
deazaguanylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

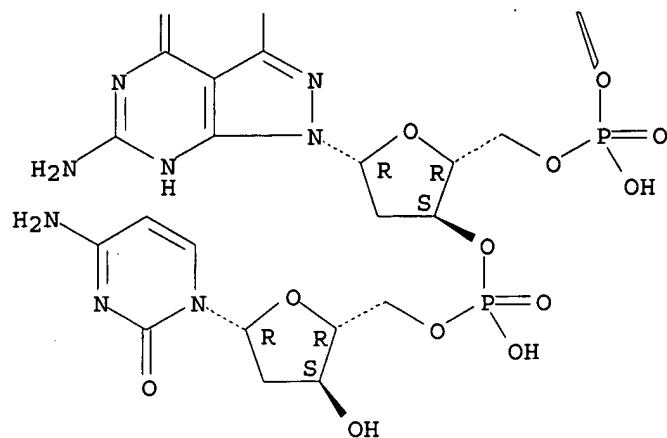
Absolute stereochemistry.

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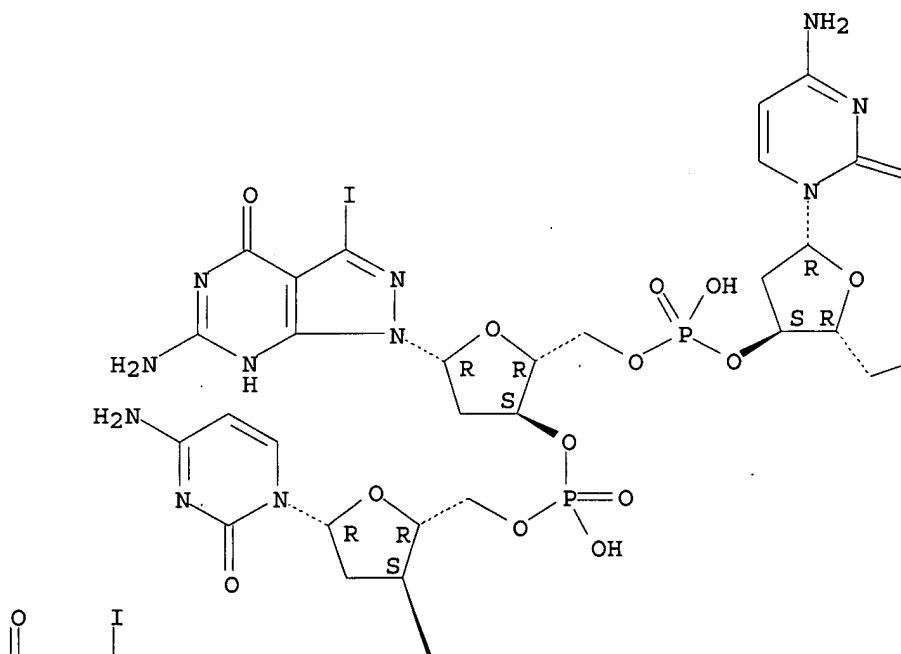


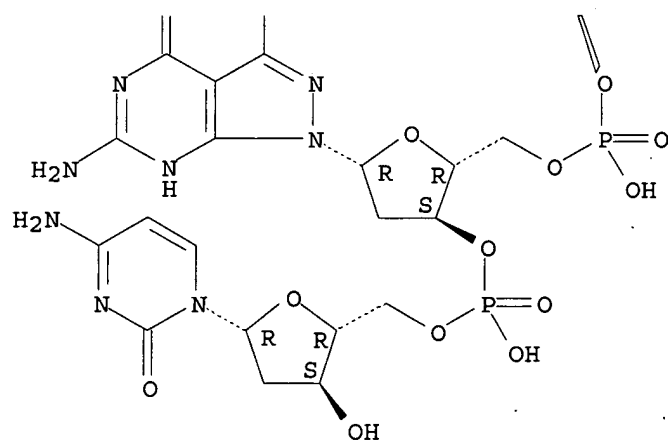
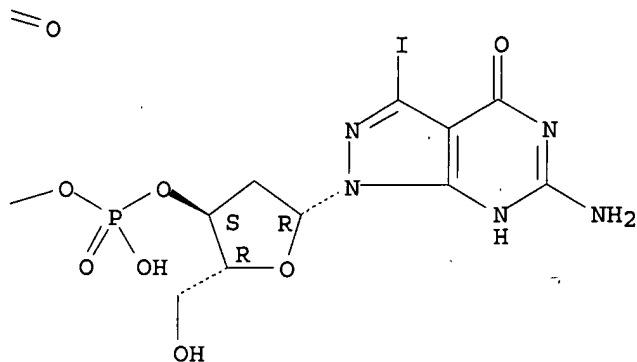


RN 215178-36-2 CAPLUS

CN Cytidine, 2'-deoxy-7-iodo-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguananylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

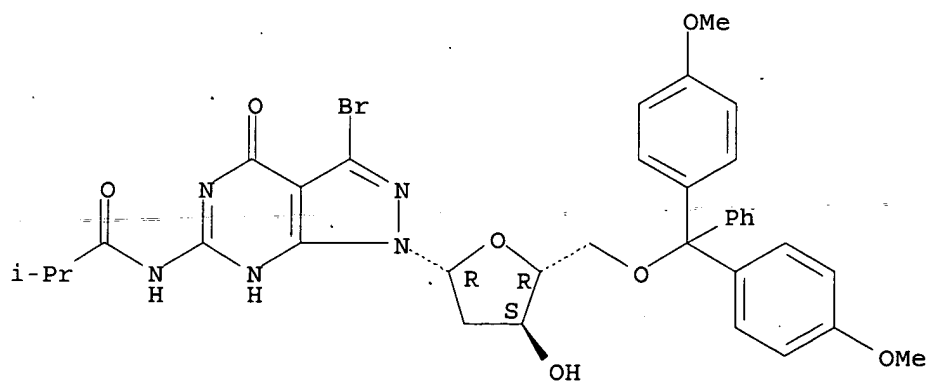




RN 215178-70-4 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-3-bromo-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

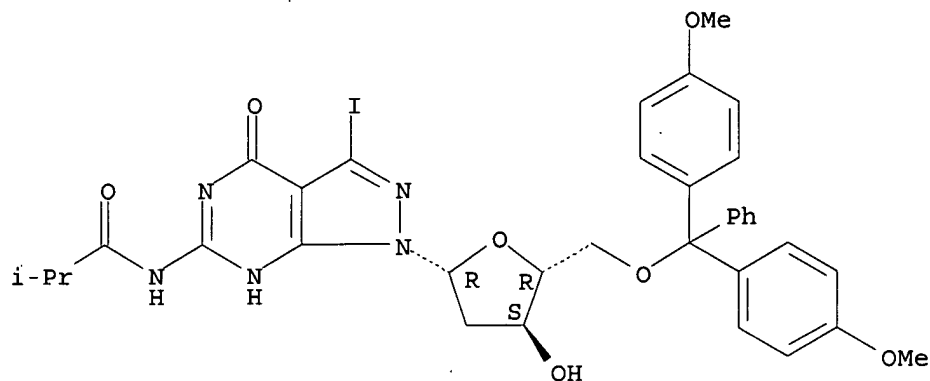
Absolute stereochemistry.



RN 215178-71-5 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-3-iodo-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

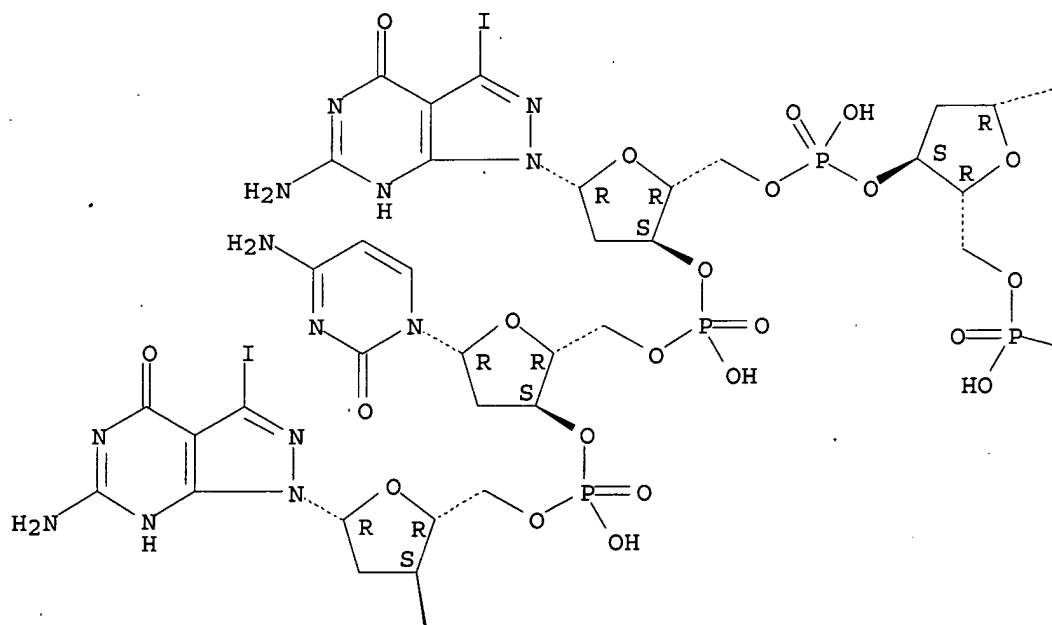


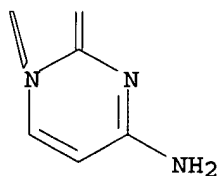
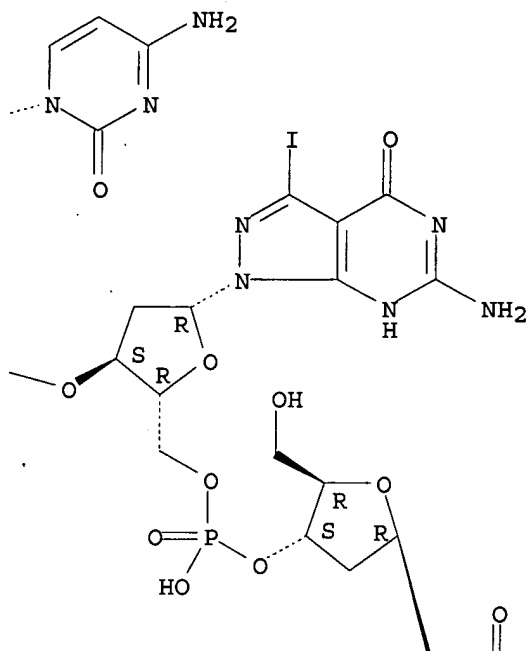
RN 252761-75-4 CAPLUS

CN 8-Aza-7-deazaguanosine, 2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguanyl-yl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguanyl-yl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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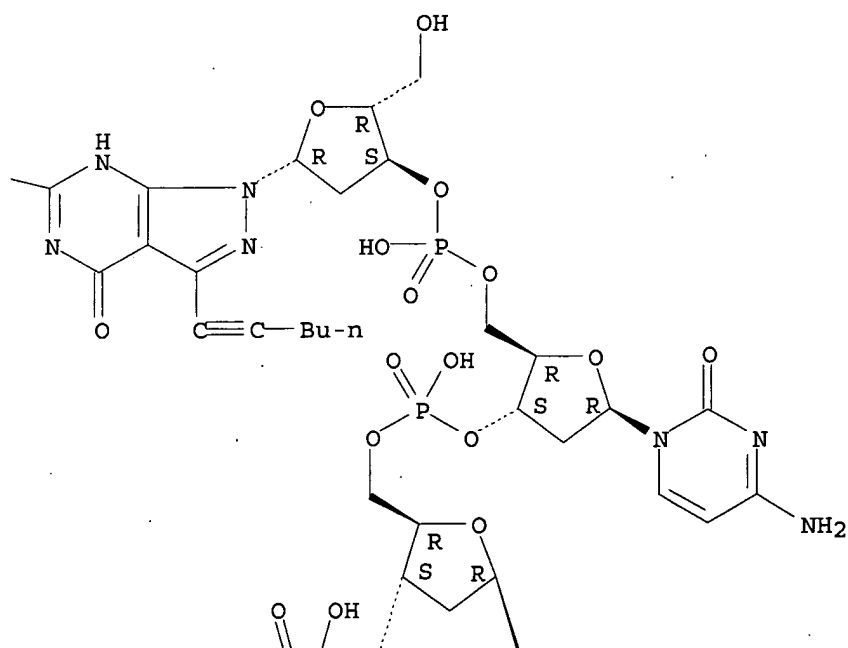
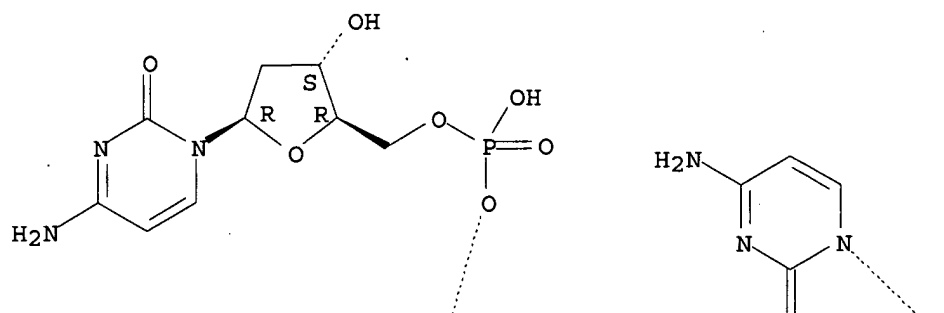


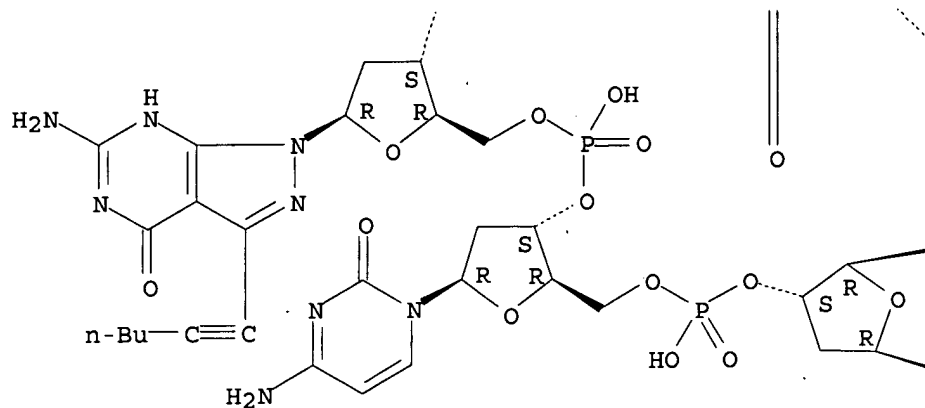


RN 252761-76-5 CAPLUS

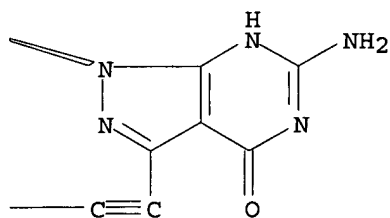
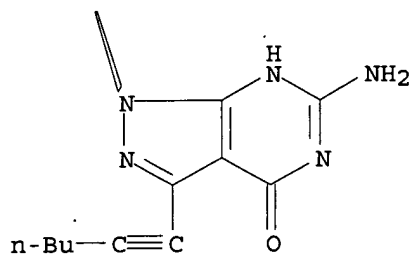
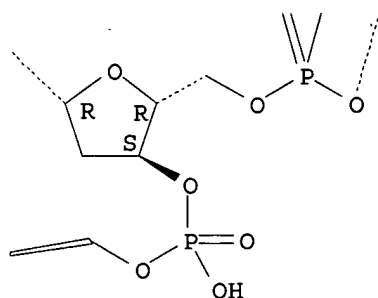
CN Cytidine, 2'-deoxy-7-(1-hexynyl)-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-  
deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-(1-hexynyl)-8-aza-7-deazaguanylyl-  
(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-7-(1-hexynyl)-8-  
aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-  
deoxy-7-(1-hexynyl)-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxy- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.





n-Bu—

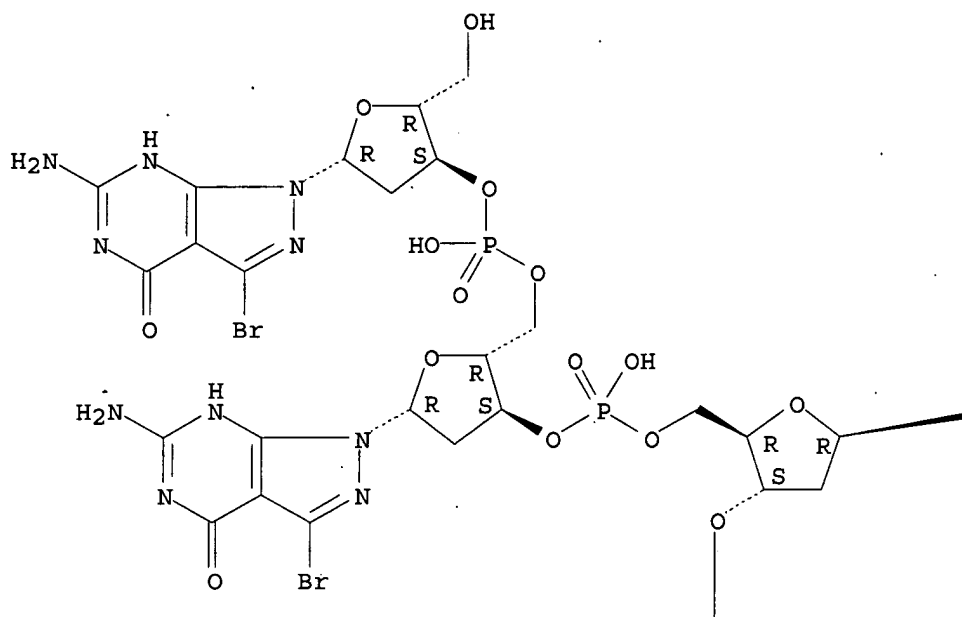


RN 252761-77-6 CAPLUS

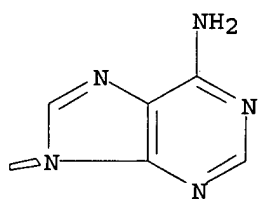
CN Cytidine, 7-bromo-2'-deoxy-8-aza-7-deazaguanyl- (3'.fwdarw.5')-7-bromo-2'-  
deoxy-8-aza-7-deazaguanyl- (3'.fwdarw.5')-2'-deoxyadenyl- (3'.fwdarw.5')-  
2'-deoxyadenyl- (3'.fwdarw.5')-thymidyl- (3'.fwdarw.5')-thymidyl-  
(3'.fwdarw.5')-2'-deoxycytidyl- (3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX  
NAME)

Absolute stereochemistry.

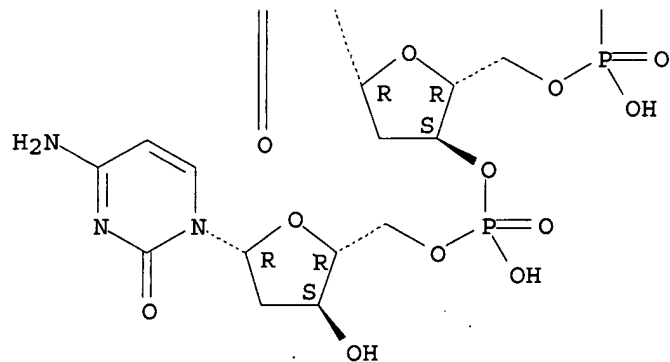
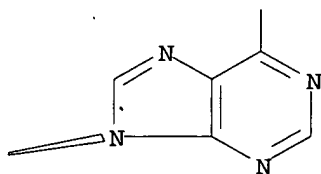
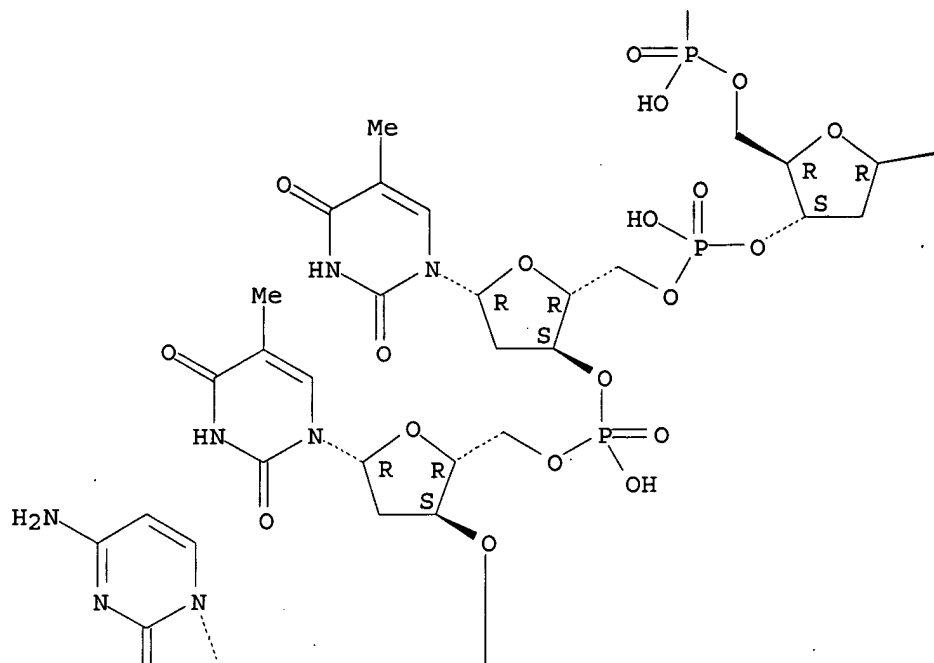
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NH<sub>2</sub>

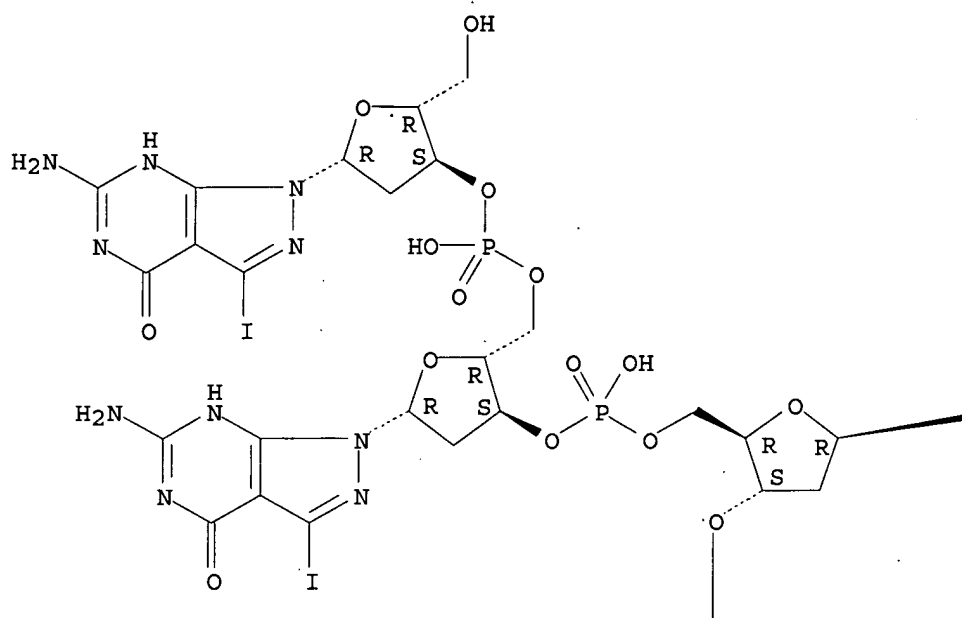


RN 252761-78-7 CAPLUS

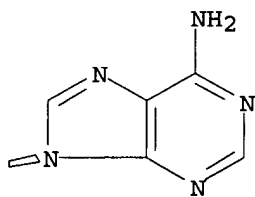
CN Cytidine, 2'-deoxy-7-iodo-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxy-7-iodo-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

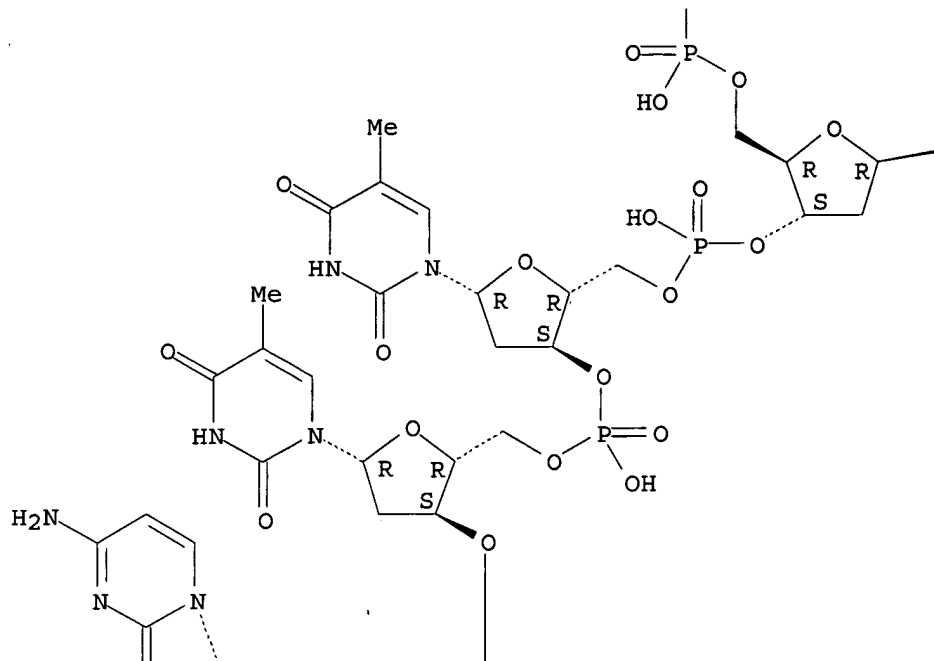
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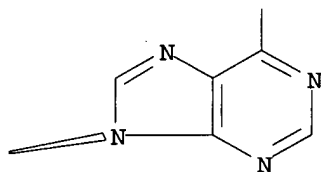
PAGE 1-B



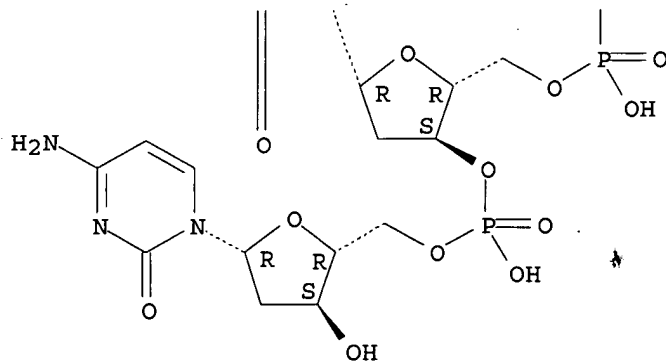
PAGE 2-A



PAGE 2-B

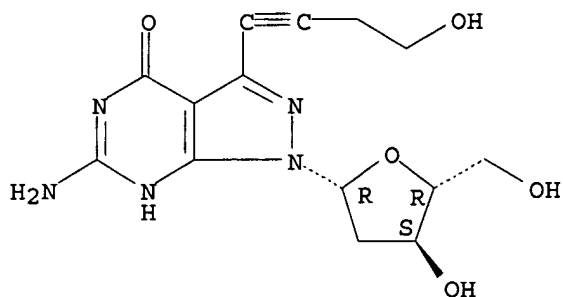


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RN 252761-81-2 CAPLUS  
 CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-  
 pentofuranosyl)-1,5-dihydro-3-(4-hydroxy-1-butynyl)- (9CI) (CA INDEX  
 NAME)

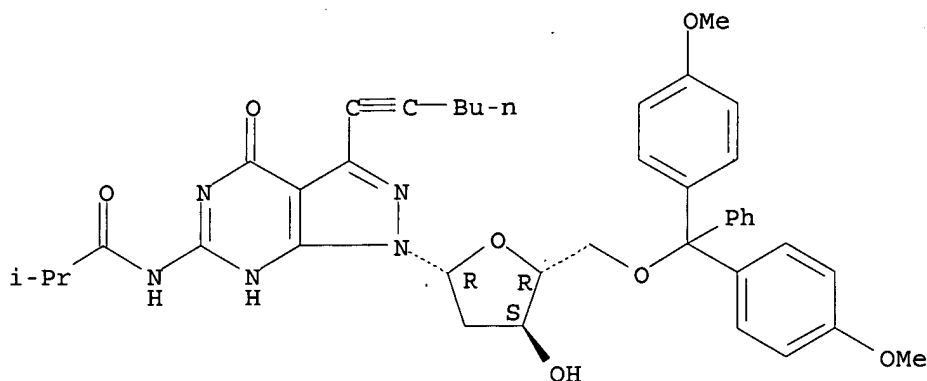
Absolute stereochemistry.



RN 252761-83-4 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-3-(1-hexynyl)-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 118907-76-9P 183274-65-9P 183274-66-0P

195378-59-7P 252761-73-2P 252761-79-8P

252761-80-1P

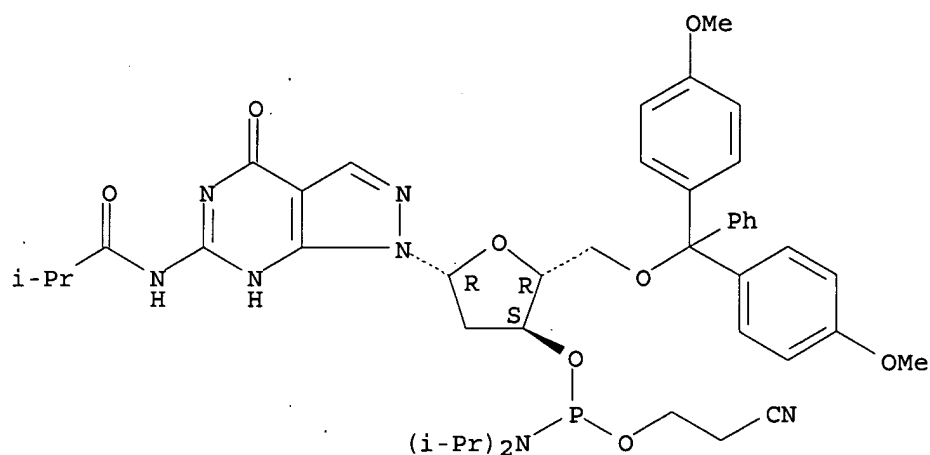
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of oligonucleotides contg. pyrazolo[3,4-d]pyrimidines and the influence of substituted deazadeoxyguanosines on the duplex structure and stability)

RN 118907-76-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

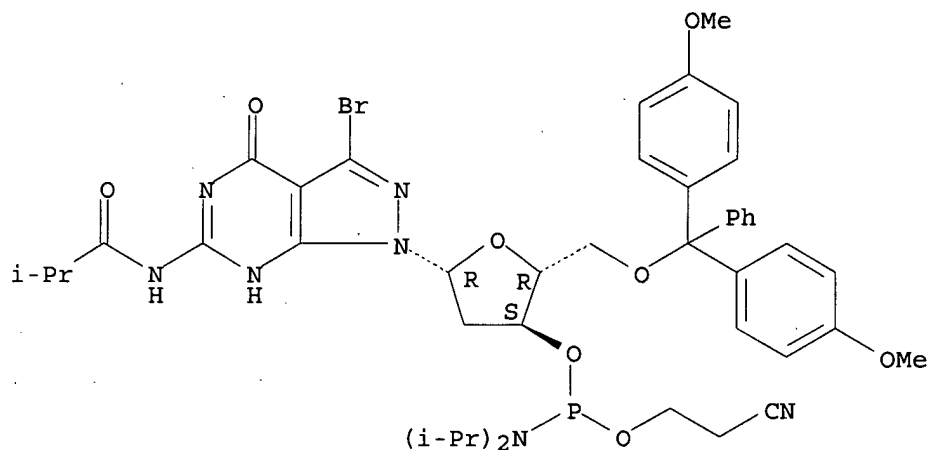
Absolute stereochemistry.



RN 183274-65-9 CAPLUS

CN Propanamide, N- [1- [5-O- [bis (4-methoxyphenyl) phenylmethyl] -3-O- [ [bis (1-methylethyl) amino] (2-cyanoethoxy) phosphino] -2-deoxy- .beta.-D-erythro-pentofuranosyl] -3-bromo-4,5-dihydro-4-oxo-1H-pyrazolo [3,4-d] pyrimidin-6-yl] -2-methyl- (9CI) (CA INDEX NAME)

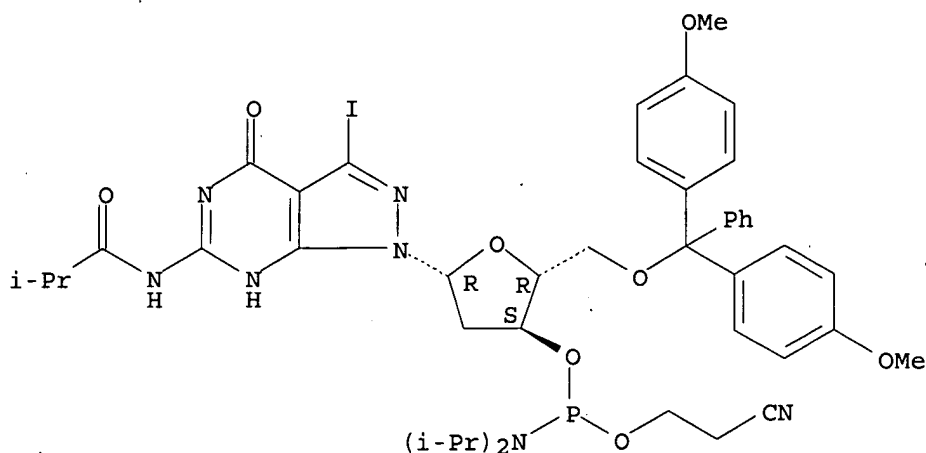
Absolute stereochemistry.



RN 183274-66-0 CAPLUS

CN Propanamide, N- [1- [5-O- [bis (4-methoxyphenyl) phenylmethyl] -3-O- [ [bis (1-methylethyl) amino] (2-cyanoethoxy) phosphino] -2-deoxy- .beta.-D-erythro-pentofuranosyl] -4,5-dihydro-3-iodo-4-oxo-1H-pyrazolo [3,4-d] pyrimidin-6-yl] -2-methyl- (9CI) (CA INDEX NAME)

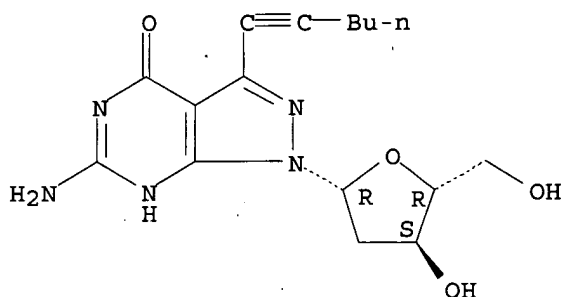
Absolute stereochemistry.



RN 195378-59-7 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-3-(1-hexynyl)-1,5-dihydro- (9CI) (CA INDEX NAME)

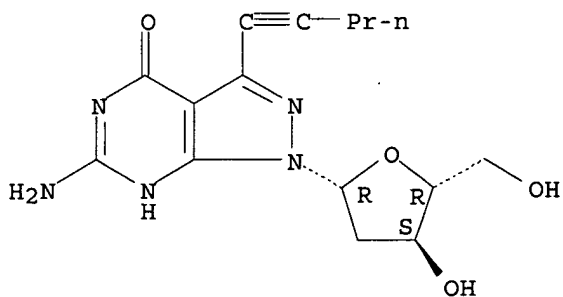
Absolute stereochemistry.



RN 252761-73-2 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-1,5-dihydro-3-(1-pentynyl)- (9CI) (CA INDEX NAME)

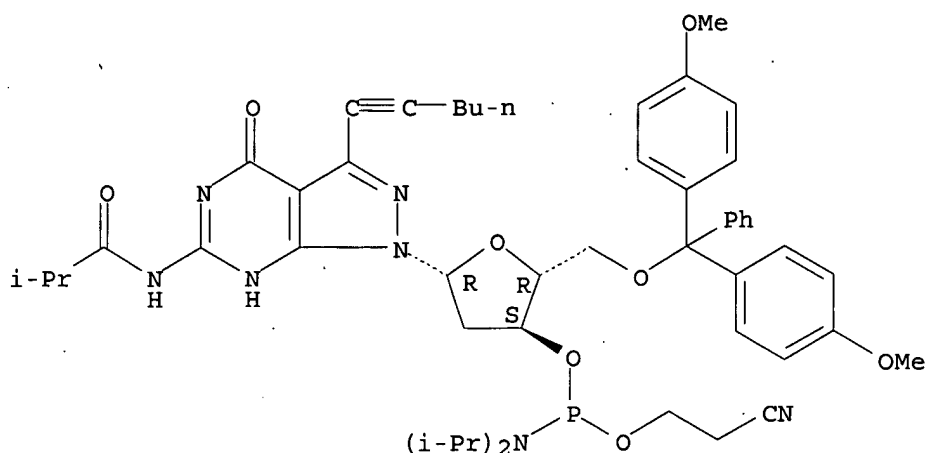
Absolute stereochemistry.



RN 252761-79-8 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-3-(1-hexynyl)-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

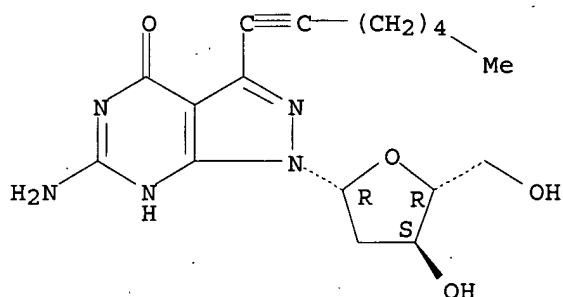
Absolute stereochemistry.



RN 252761-80-1 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-3-(1-heptynyl)-1,5-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1989:458263 CAPLUS

DOCUMENT NUMBER: 111:58263

TITLE: Alternating d(G-C)3 and d(C-G)3 hexanucleotides containing 7-deaza-2'-deoxyguanosine or 8-aza-7-deaza-2'-deoxyguanosine in place of dG

AUTHOR(S): Seela, Frank; Driller, Hansjuergen

CORPORATE SOURCE: Fachber. Biol./Chem., Univ. Osnabrueck, Osnabrueck, D-4500, Fed. Rep. Ger.

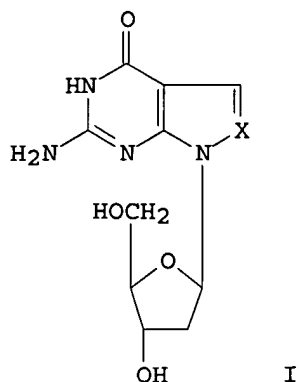
SOURCE: Nucleic Acids Research (1989), 17(3), 901-10

CODEN: NARHAD; ISSN: 0305-1048

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB The synthesis of alternating hexamers derived from d(C-G)<sub>3</sub> or d(G-C)<sub>3</sub> but contg. c7z8Gd (I, X = N) or c7Gd (I, X = CH) instead of dG is described employing **phosphoramidite**-chem. Apart from the isobutyryl group, the dimethylaminomethylene residue was used for the nucleobase-protection of I (X = CH). The methyl- and the cyanoethyl-**phosphoramidites** of I (X = CH) were prepd. They were employed together with those of c7G or c7z8Gd in automated oligonucleotide synthesis. T<sub>m</sub>-values as well as thermodyn. data of the oligomers indicated that duplexes were destabilized if c7Gd replaced dG, whereas c7z8Gd stabilized the duplex structure. In contrast to d(C-G)<sub>3</sub> which underwent salt-dependent B-Z transition, the CD spectra of oligomers contg. c7Gd or c7z8Gd in place of dG showed retained .beta.-conformation.

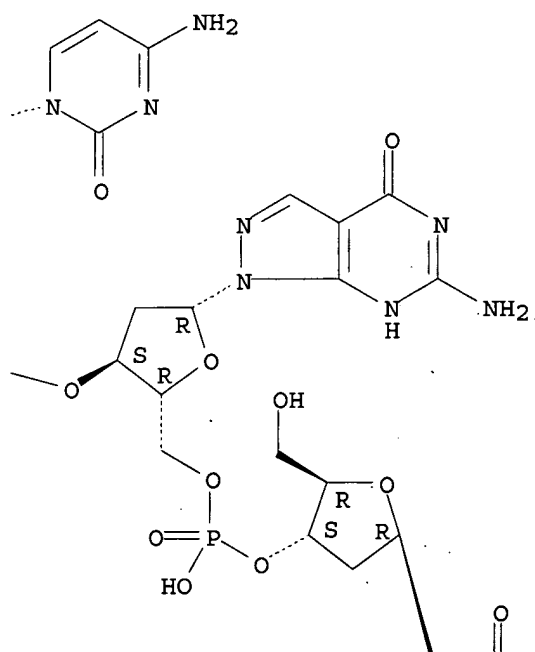
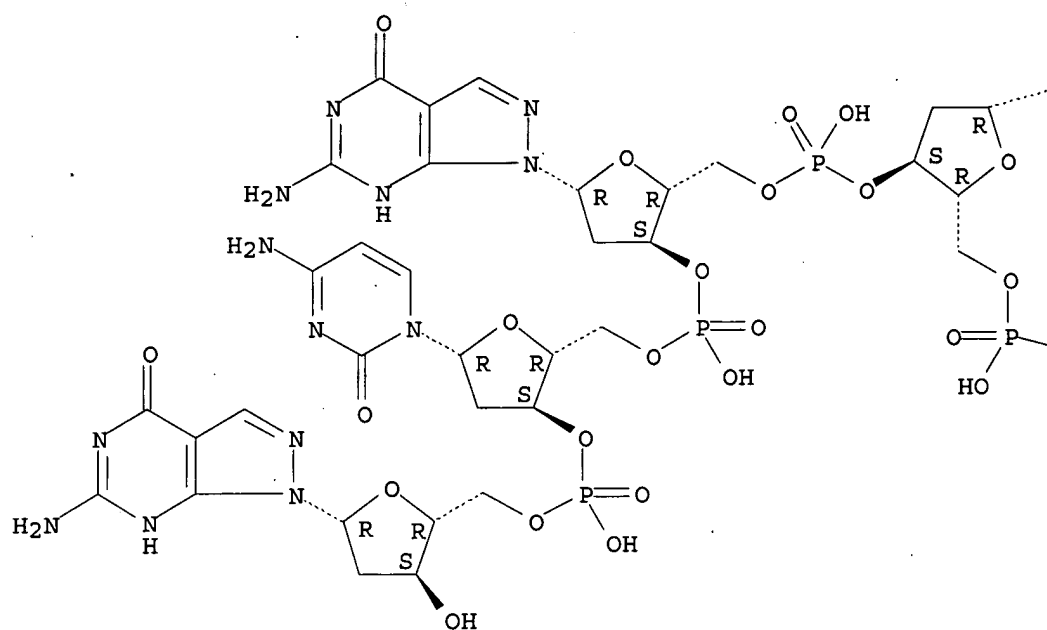
IT 121742-43-6P 121742-44-7P

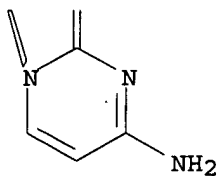
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and properties of)

RN 121742-43-6 CAPLUS

CN 8-Aza-7-deazaguanosine, 2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanilyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanilyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

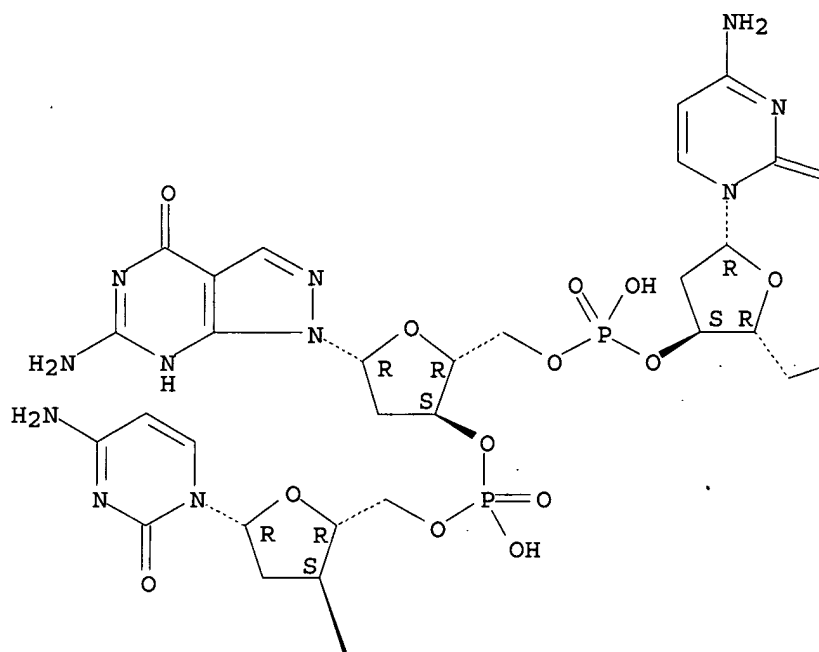


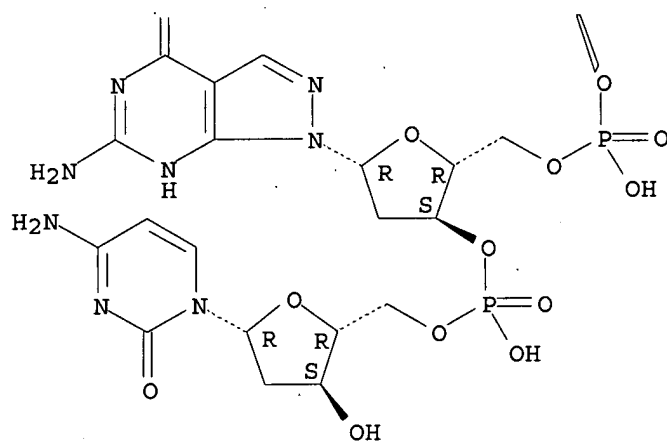
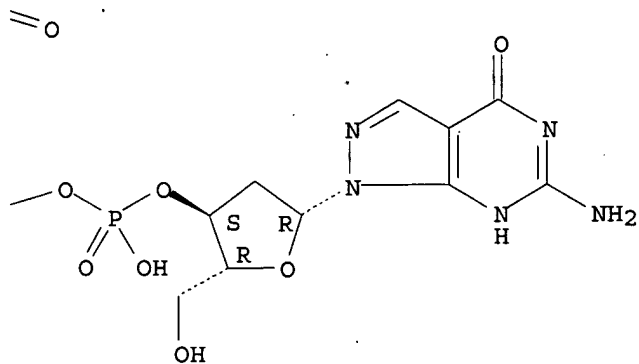


RN 121742-44-7 CAPLUS

CN Cytidine, 2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

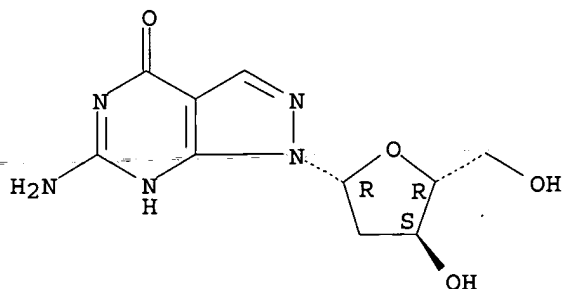
Absolute stereochemistry.





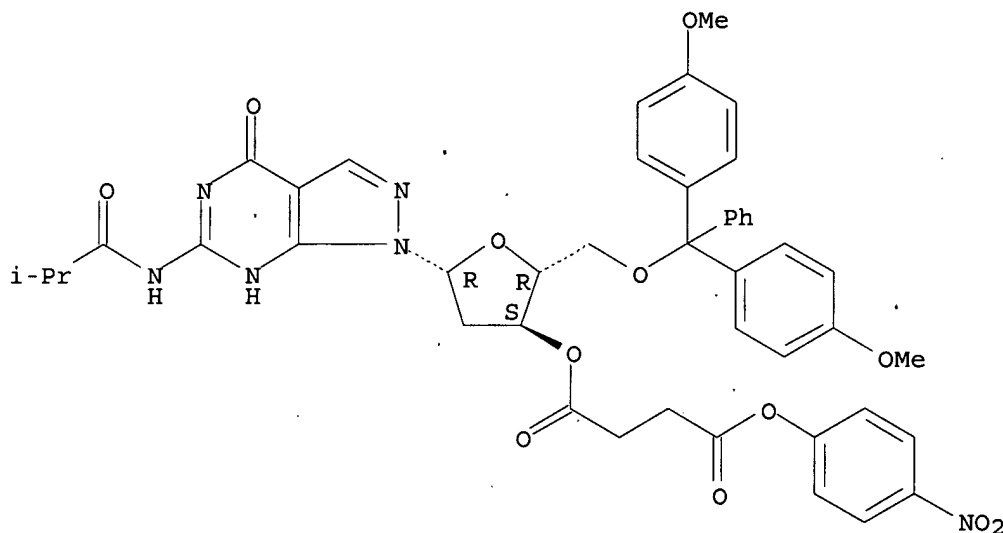
IT 100644-70-0DP, hexanucleotides contg.  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of)  
 RN 100644-70-0 CAPLUS  
 CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-  
 pentofuranosyl)-1,5-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



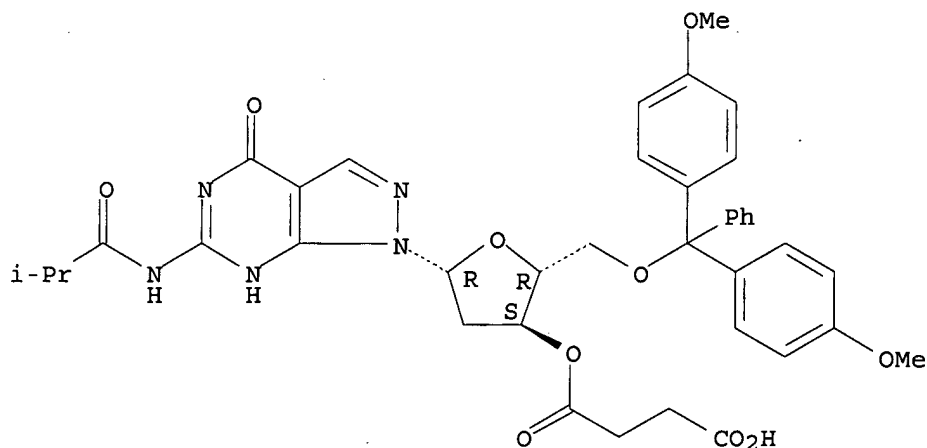
IT 121742-41-4P 121742-42-5DP, fractosil-linked  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of, as intermediate in synthesis of hexanucleotide)  
 RN 121742-41-4 CAPLUS  
 CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-3-O-[4-(4-nitrophenoxy)-1,4-dioxobutyl]-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



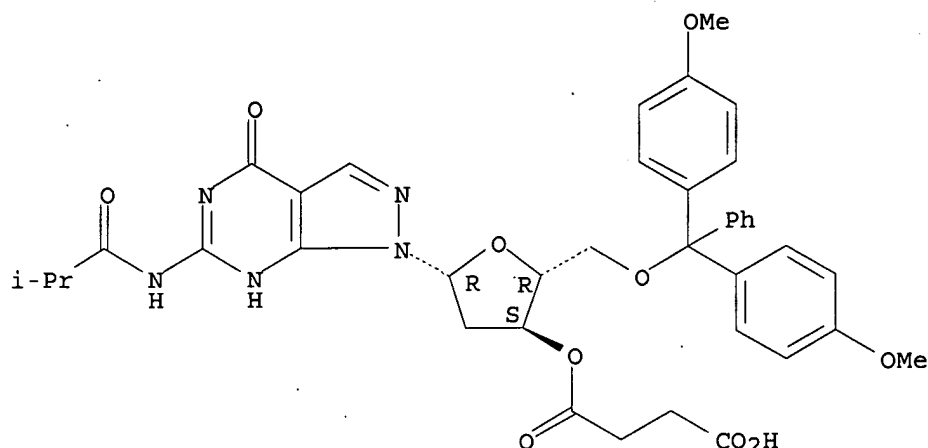
RN 121742-42-5 CAPLUS  
 CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-(3-carboxy-1-oxopropyl)-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 121742-42-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with nitrophenol)  
 RN 121742-42-5 CAPLUS  
 CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-(3-carboxy-1-oxopropyl)-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



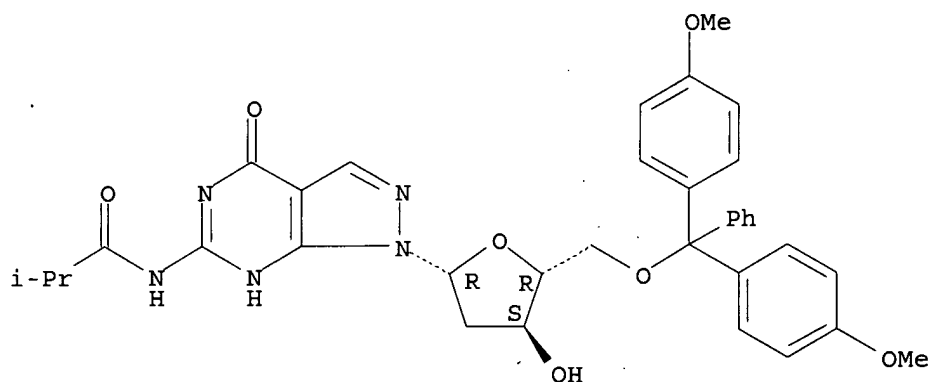
IT 118907-71-4

RL: PROC (Process)  
(succinylation of)

RN 118907-71-4 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



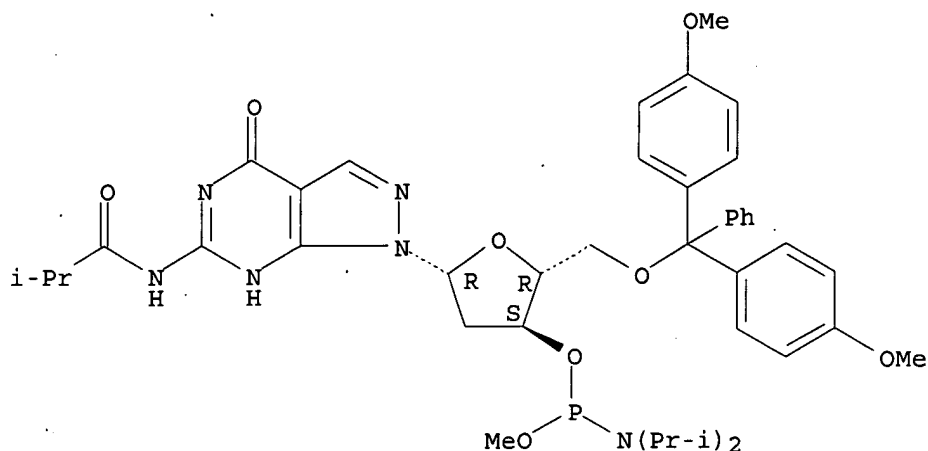
IT 118907-75-8 118907-76-9

RL: RCT (Reactant); RACT (Reactant or reagent)  
(use of, in synthesis of hexanucleotides)

RN 118907-75-8 CAPLUS

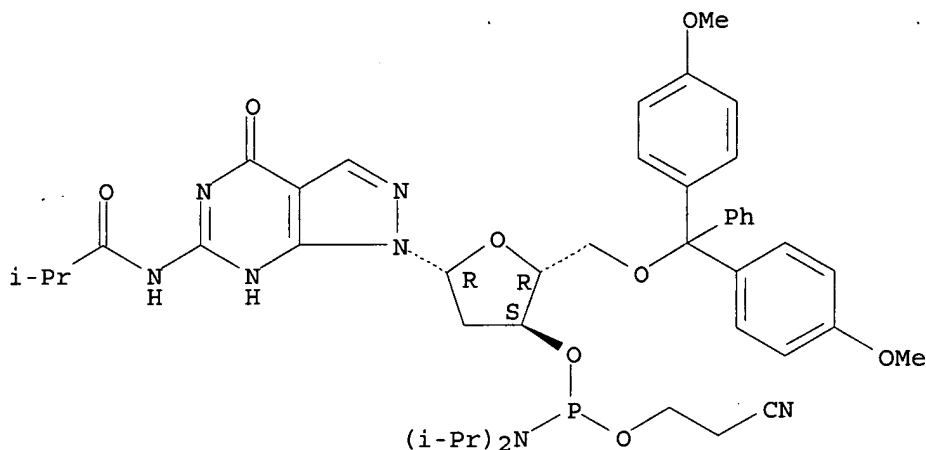
CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

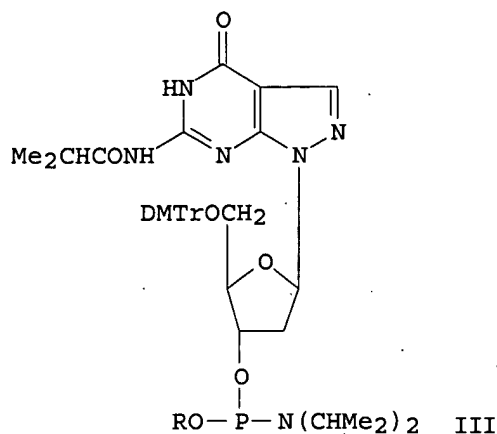
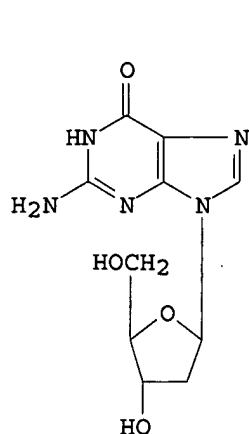


RN 118907-76-9 CAPLUS  
 CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-β-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L6 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1989:75966 CAPLUS  
 DOCUMENT NUMBER: 110:75966  
 TITLE: 8-Aza-7-deaza-2'-deoxyguanosine:  
 phosphoramidite synthesis and properties of  
 octanucleotides  
 AUTHOR(S): Seela, Frank; Driller, Hansjuergen  
 CORPORATE SOURCE: Lab. Org. Bioorgan. Chem., Univ. Osnabrueck,  
 Osnabrueck, D-4500, Fed. Rep. Ger.  
 SOURCE: Helvetica Chimica Acta (1988), 71(5), 1191-8  
 CODEN: HCACAV; ISSN: 0018-019X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 110:75966  
 GI



AB Base-modified octanucleotides derived from d(G1-G2-A-A-T-T-C-C) (I) but contg. 8-aza-7-deaza-2'-deoxyguanosine (II) instead of 2'-deoxyguanosine have been prepd. by solid-phase synthesis employing P(III) chem. Isobutyrylation of II, followed by 4,4'-dimethoxytritylation and subsequent phosphitylation yielded the Me or the cyanoethyl **phosphoramidites** III [R = Me, (CH<sub>2</sub>)<sub>2</sub>CN], resp. They were used as building blocks in automated DNA synthesis. The resulting octanucleotides contg. II showed increased T<sub>m</sub> values compared to the parent oligomer I. The oligomers prepd. were employed as sequence-specific probes in endodeoxyribonuclease Eco RI oligonucleotide recognition. Whereas displacement of dG-2 (enzymic cleavage site of I) abolished phosphodiester hydrolysis, replacement of dG-1 enhanced the cleavage rate compared to I.

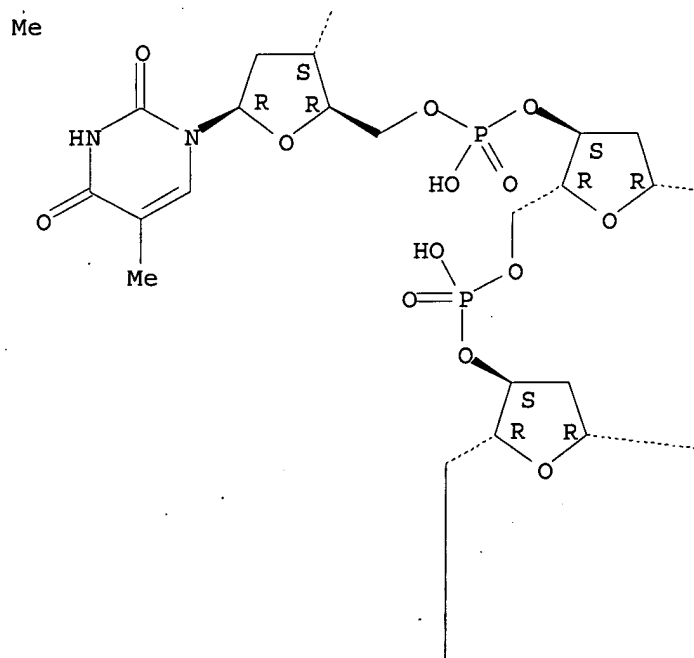
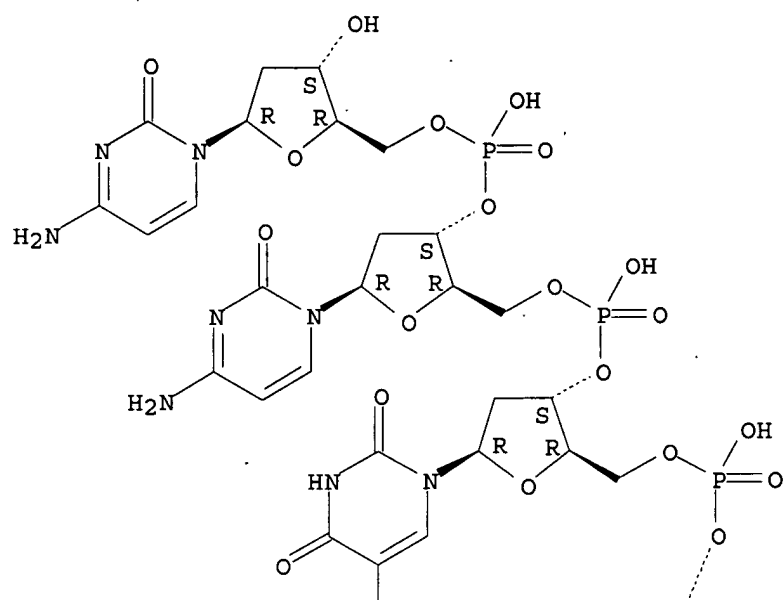
IT **118907-77-0P 118907-78-1P 118907-79-2P**

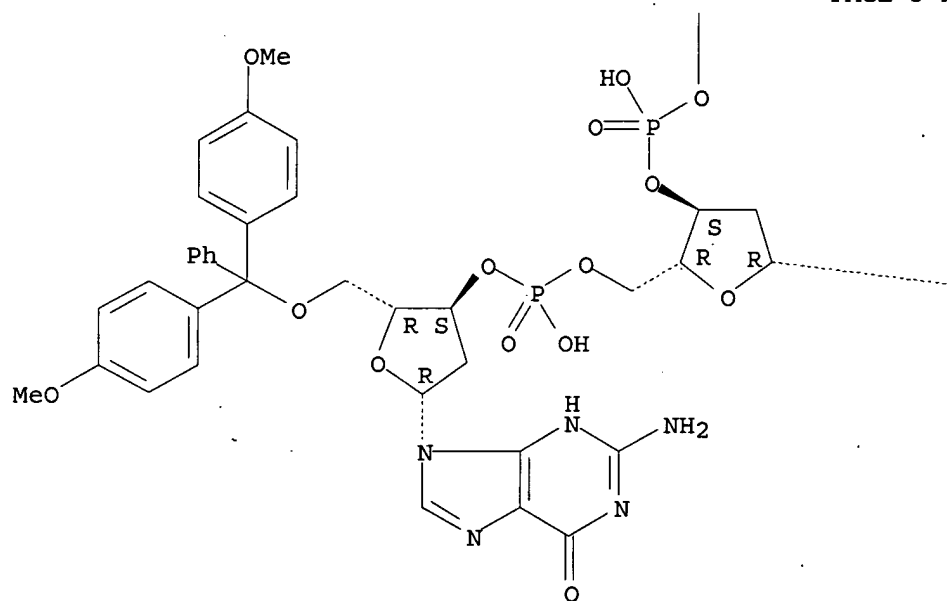
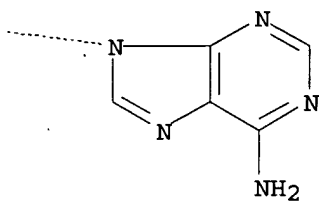
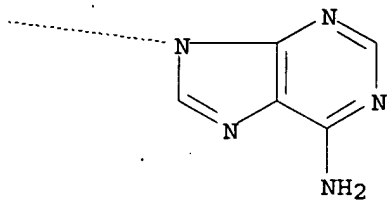
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and deprotection of)

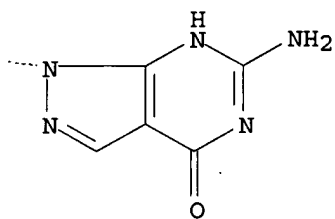
RN 118907-77-0 CAPLUS

CN Cytidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-deoxyguanylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanilyl-(3'.fwdarw.5')-2'-deoxyadenilyl-(3'.fwdarw.5')-2'-deoxyadenilyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



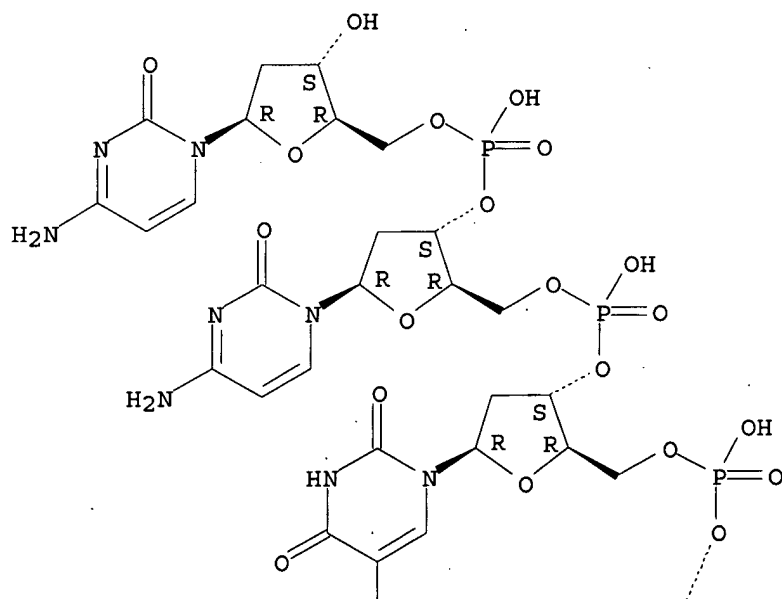


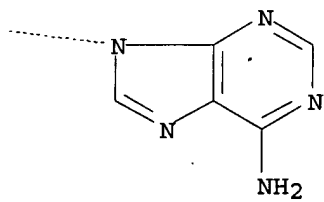
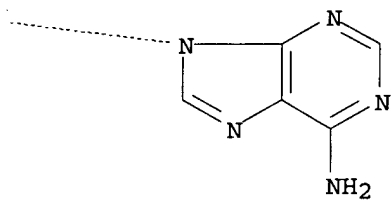
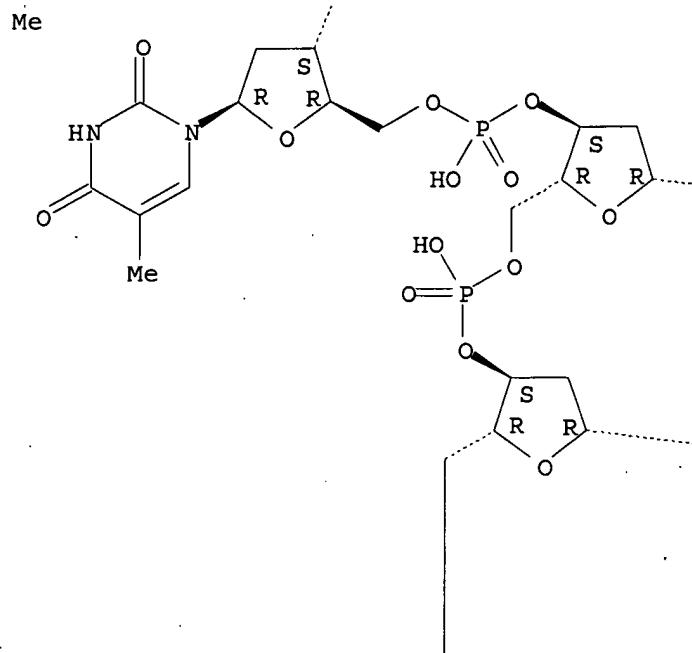


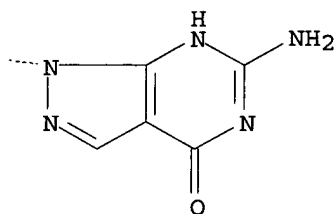
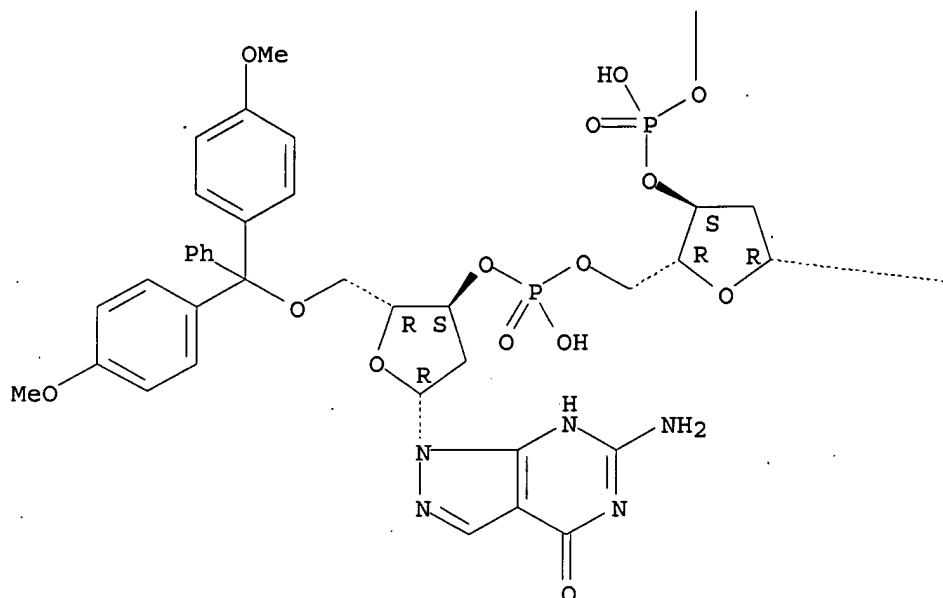
RN 118907-78-1 CAPLUS

CN Cytidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



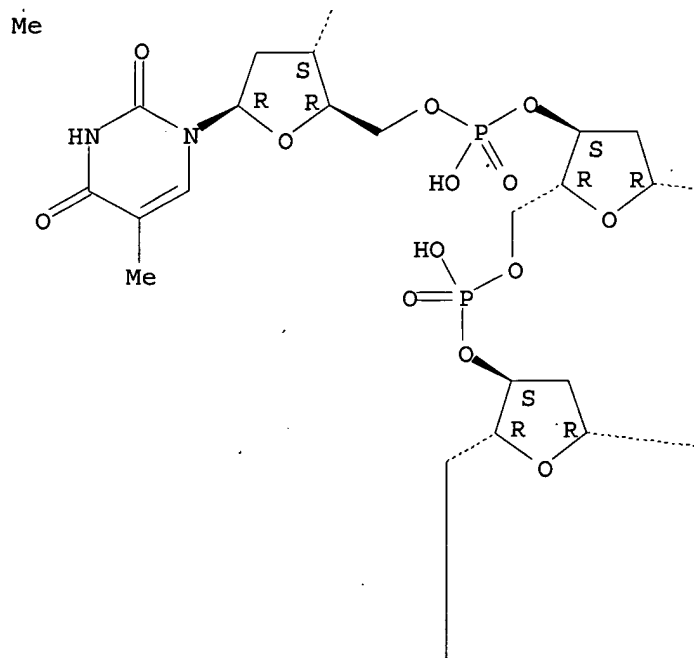
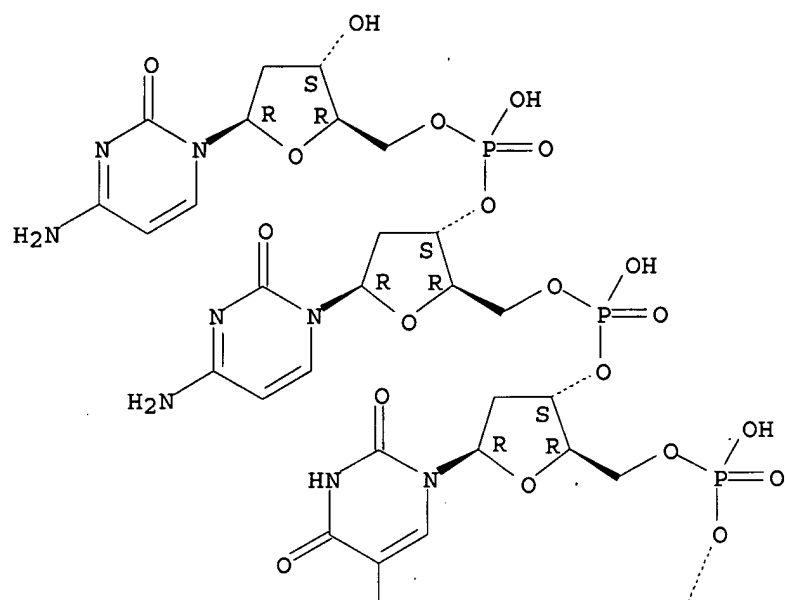


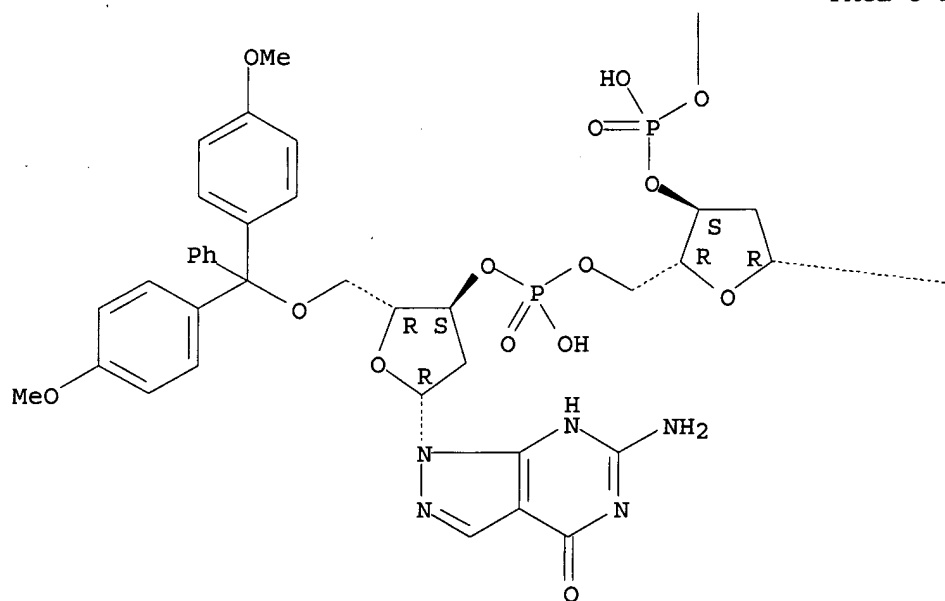
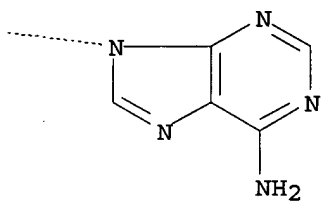
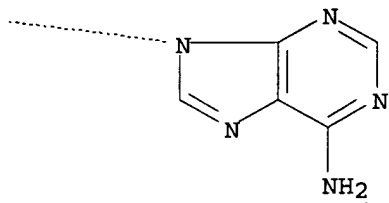


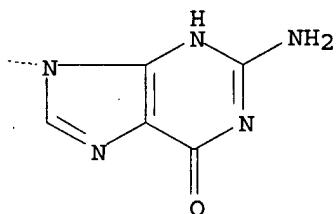
RN 118907-79-2 CAPLUS

CN Cytidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-deoxy-8-aza-7-deazaguanyl-yl-(3'.fwdarw.5')-2'-deoxyguanylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.







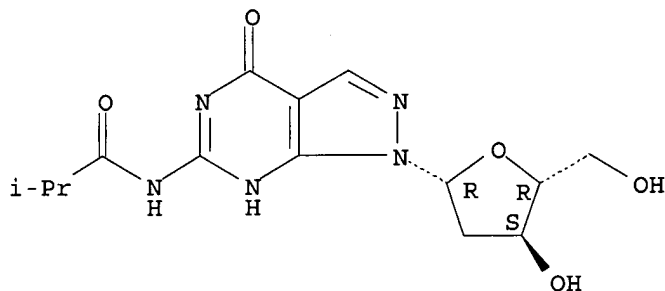
IT 118907-70-3P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and dimethyltritylation of, in synthesis of octanucleotides)

RN 118907-70-3 CAPLUS

CN Propanamide, N-[1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 118907-80-5P 118907-81-6P 118907-82-7P

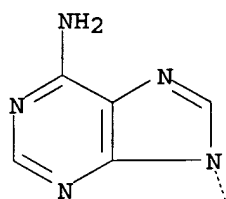
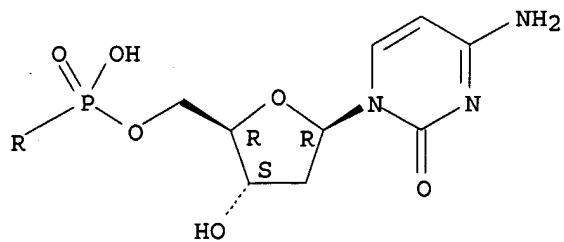
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and enzymic hydrolysis of)

RN 118907-80-5 CAPLUS

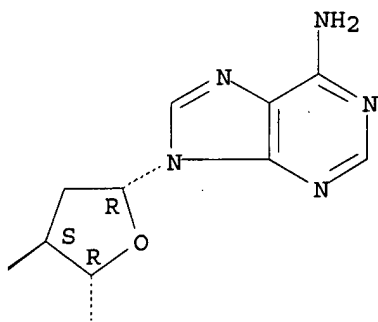
CN Cytidine, 2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

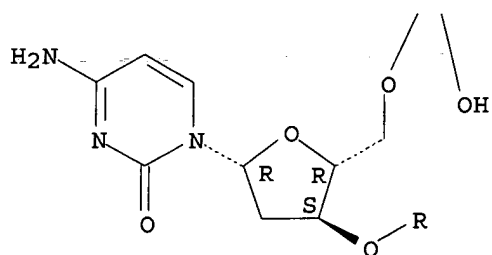
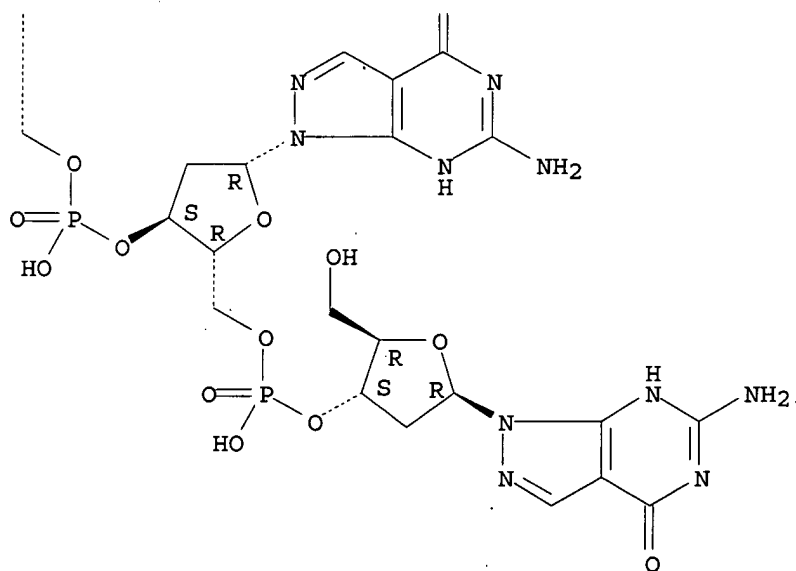
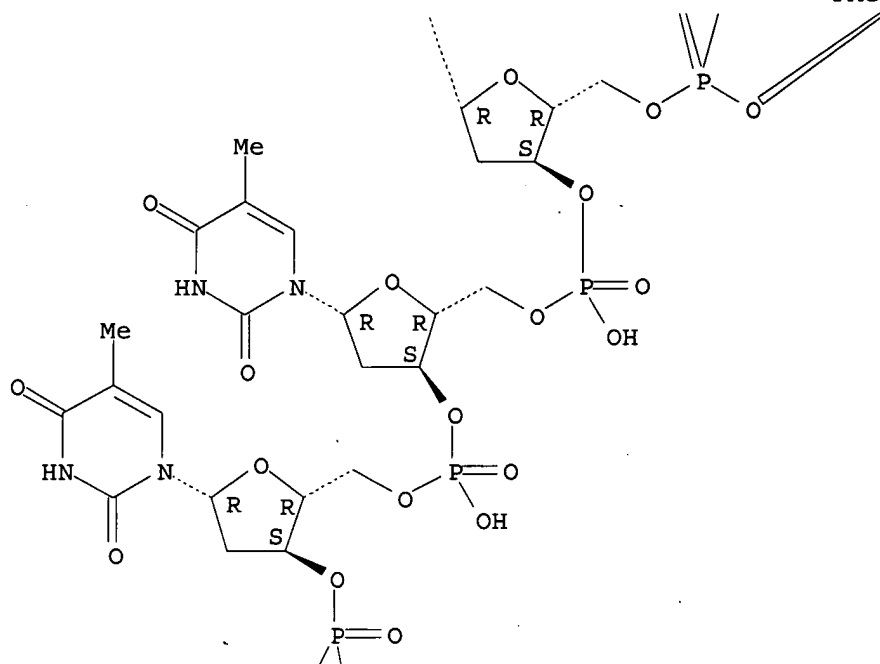
Absolute stereochemistry.

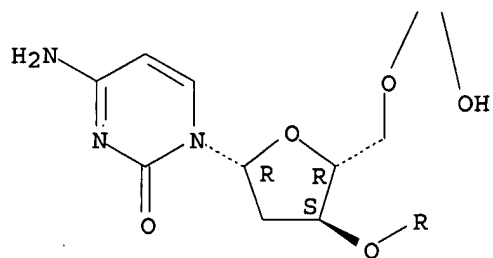
PAGE 1-A



PAGE 1-B



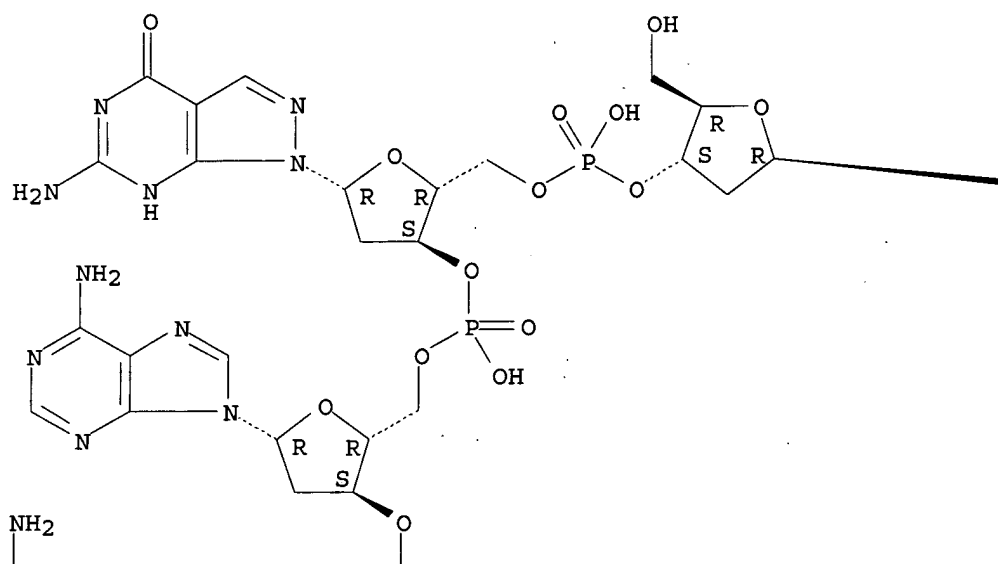


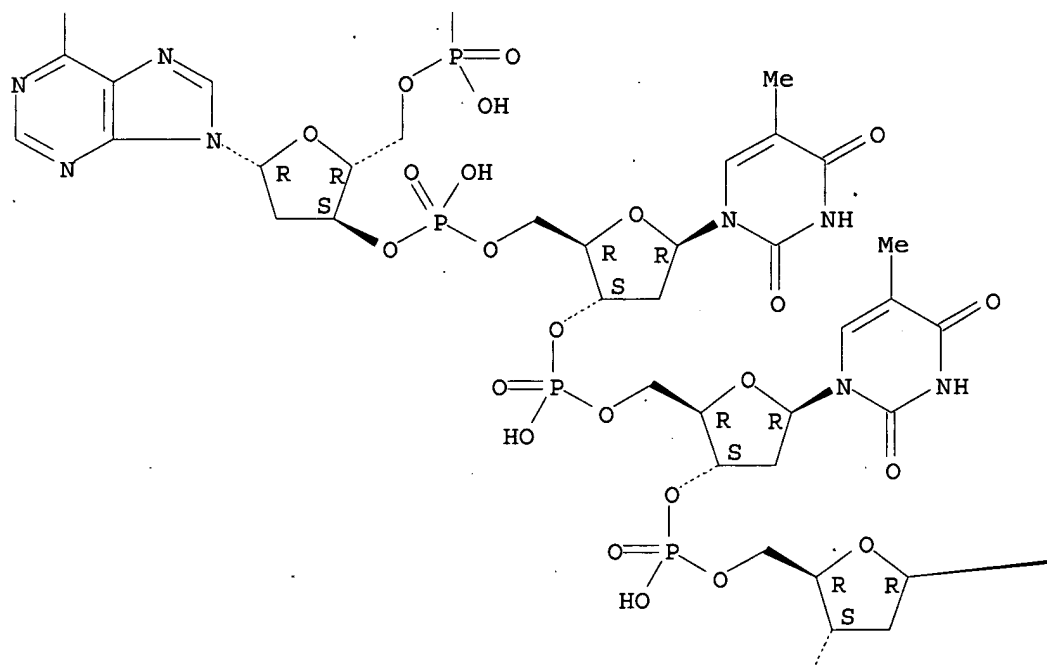
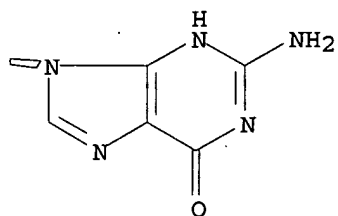


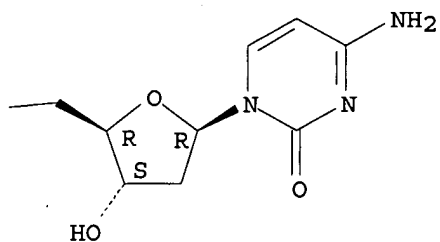
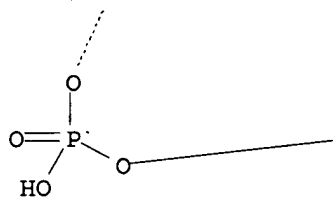
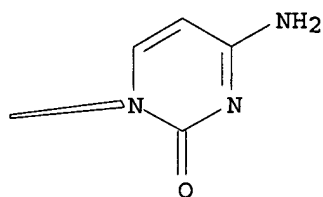
RN 118907-81-6 CAPLUS

CN Cytidine, 2'-deoxyguanylyl-(3'.fwdarw.5')-2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



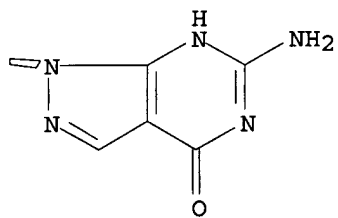
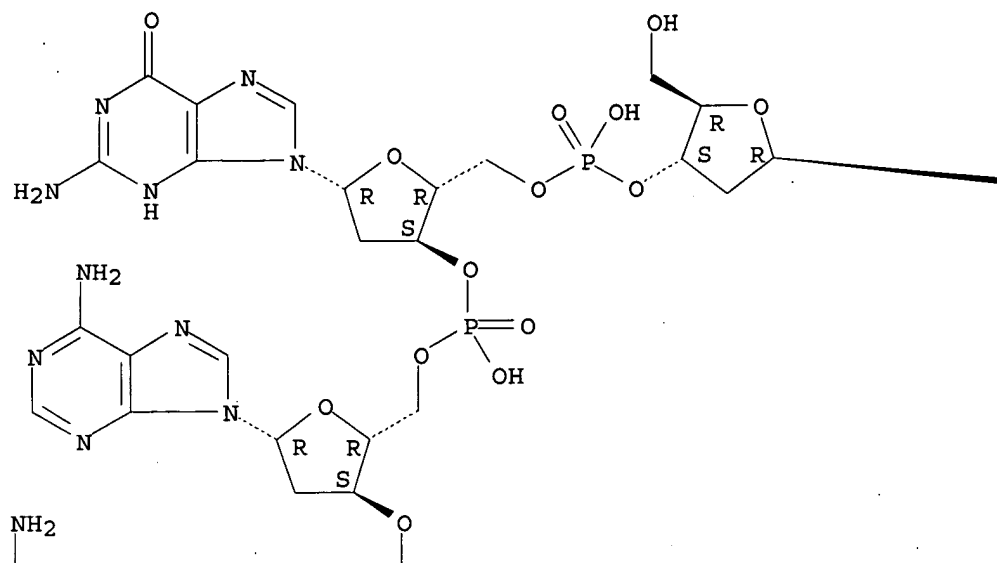




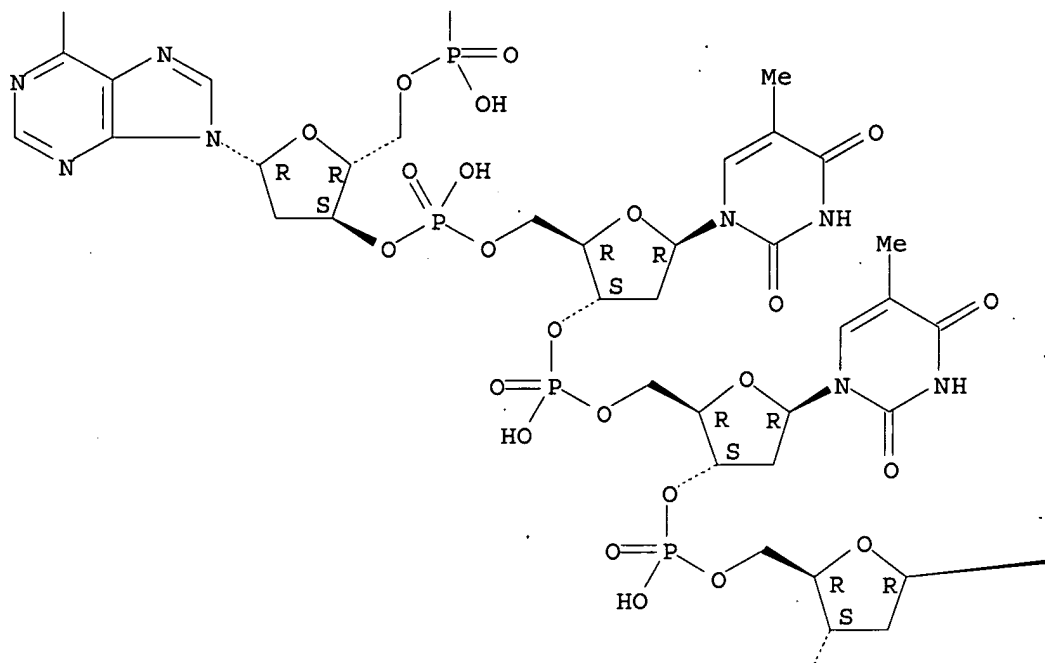
RN 118907-82-7 CAPLUS

CN Cytidine, 2'-deoxy-8-aza-7-deazaguanylyl-(3'.fwdarw.5')-2'-deoxyguanylyl-  
(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-  
(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-  
deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

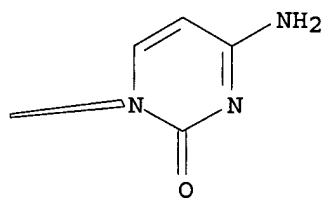
Absolute stereochemistry.

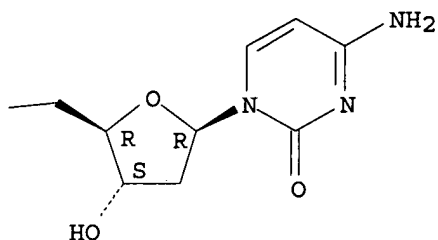
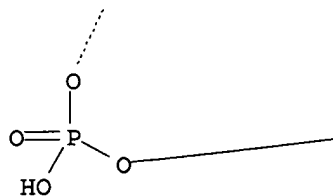


PAGE 2-A



PAGE 2-B





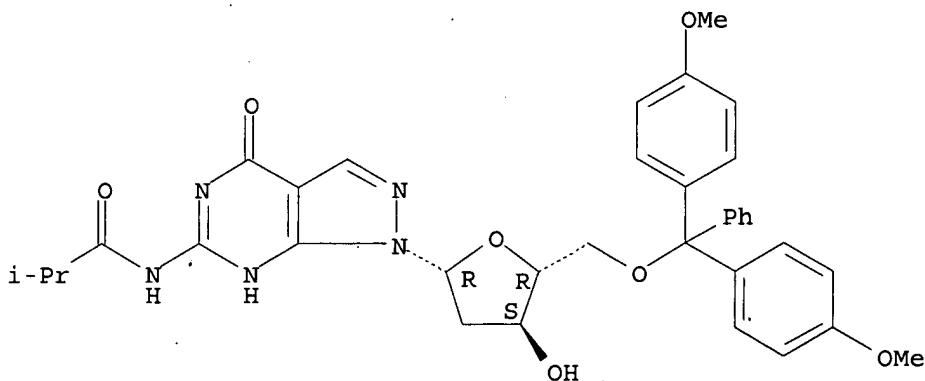
IT 118907-71-4P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and phosphatidylation of, in synthesis of octanucleotides)

RN 118907-71-4 CAPLUS

Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



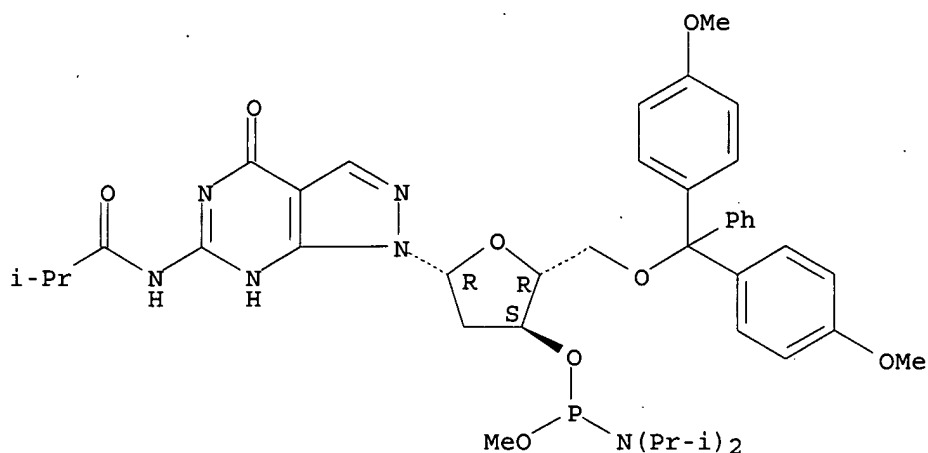
IT 118907-75-8P 118907-76-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, intermediate in synthesis of octanucleotides)

RN 118907-75-8 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

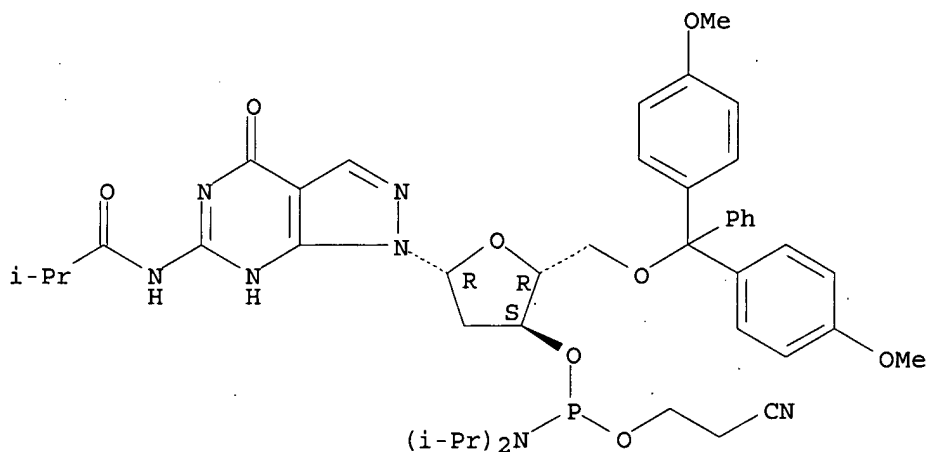
Absolute stereochemistry.



RN 118907-76-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



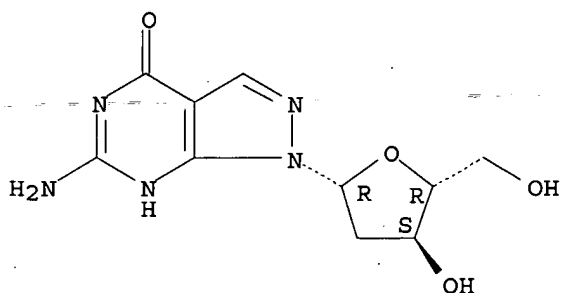
IT 100644-70-0

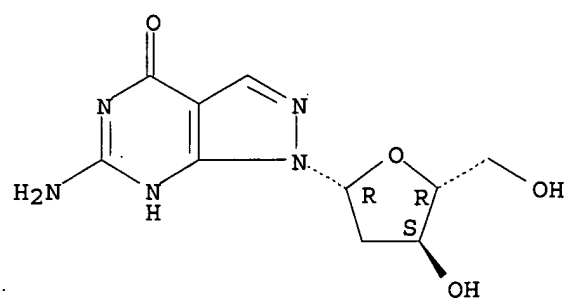
RL: RCT (Reactant); RACT (Reactant or reagent)  
(N-isobutylation of, in synthesis of octanucleotides)

RN 100644-70-0 CAPLUS

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-1,5-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.





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(FILE 'HOME' ENTERED AT 14:45:51 ON 19 AUG 2003)

FILE 'REGISTRY' ENTERED AT 14:46:00 ON 19 AUG 2003

L1           STRUCTURE UPLOADED  
L2           5 S L1 SSS SAM  
L3           102 S L1 SSS FULL

FILE 'CAPLUS, MEDLINE' ENTERED AT 14:59:56 ON 19 AUG 2003

L4           47 S L3  
L5           0 S L3 AND PHOSPHORAMIDITE NUCLEOSIDE  
L6           3 S L3 AND PHOSPHORAMIDITE  
L7           3 DUP REM L6 (0 DUPLICATES REMOVED)  
L8           3 S L3 AND PHOSPHORAMIDITES  
L9           30 S L3 AND NUCLEOSIDE  
L10          5 S L9 AND PHOSP?

L21 ANSWER 1 OF 4 USPATFULL on STN

ACCESSION NUMBER: 2003:113672 USPATFULL

TITLE: Process for the synthesis of pyrazolopyrimidines

INVENTOR(S): Dempsy, Robert O., Kirkland, WA, UNITED STATES

Adams, A. David, Snohomish, WA, UNITED STATES

Reed, Michael W., Seattle, WA, UNITED STATES

PATENT ASSIGNEE(S): Epoch Biosciences, Inc., Bothell, WA (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003078413	A1	20030424
APPLICATION INFO.:	US 2001-954624	A1	20010912 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834		
NUMBER OF CLAIMS:	43		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1015		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a nucleoside comprising a pyrazolopyrimidine base and a process for producing the same. In particular, the processes of the present invention comprises using a halogenated pyrazolopyrimidine base and removing the halogen after the base is coupled to a sugar moiety. The presence of the halogen on the nucleoside base allows facile and economical production of a large quantity of nucleosides.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

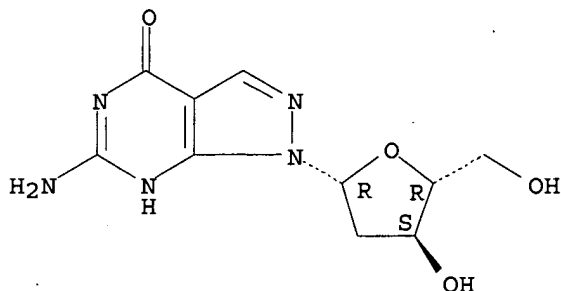
IT 100644-70-0P

(process for synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups)

RN 100644-70-0 USPATFULL

CN 4H-Pyrazolo[3,4-d]pyrimidin-4-one, 6-amino-1-(2-deoxy-.beta.-D-erythro-pentofuranosyl)-1,5-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L23 ANSWER 2 OF 5 CA COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 139:53258 CA

TITLE: Solid phase synthesis and combinatorial libraries of deazapurine nucleosides useful in the treatment of viral infections and neoplastic diseases

INVENTOR(S): Girardet, Jean-Luc; An, Haoyun; Chamakura, Varaprasad; Gunic, Esmir; Hong, Zhi

PATENT ASSIGNEE(S): Ribapharm Inc., USA

SOURCE: PCT Int. Appl., 59 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

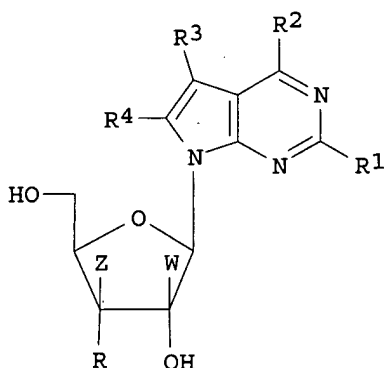
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003051899	A1	20030626	WO 2002-US40416	20021217
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2001-342410P P 20011217

OTHER SOURCE(S): MARPAT 139:53258

GI



AB Deazapurine nucleoside analogs I, wherein R is H, OH; R1-R4 are independently H, halogen, NH<sub>2</sub>, NHR', R', CN, CONH<sub>2</sub>, N<sub>3</sub>, CH<sub>2</sub>CN; R' is substituted alkyl, unsubstituted alkyl, substituted aryl, and an unsubstituted aryl; W and Z are independently hydrogen, N<sub>3</sub>, NH<sub>2</sub>, OH, SH, R<sub>5</sub>, or NHR<sub>5</sub> wherein R<sub>5</sub> is an alkyl, substituted alkyl, alkenyl, a substituted alkenyl, alkynyl, substituted alkynyl, aryl, substituted aryl; are prep'd. in a combinatorial library approach. Particularly preferred compds. and libraries include various 7-deazapurines, 9-deazapurines, and 7-deaza-8-azaguanosine as heterocyclic bases, and it is generally preferred that such nucleosides include a ribofuranose as the sugar moiety. It is further contemplated that compds. generated using

contemplated libraries may be useful in the treatment of various conditions, particularly viral infections and neoplastic diseases (no data). Thus, I (R = OH; R1 = R4 = Z = W = H; R2 = NHBn; R3 = Ph) was prepd. useful in the treatment of viral infections and neoplastic diseases.

IT 547754-42-7P

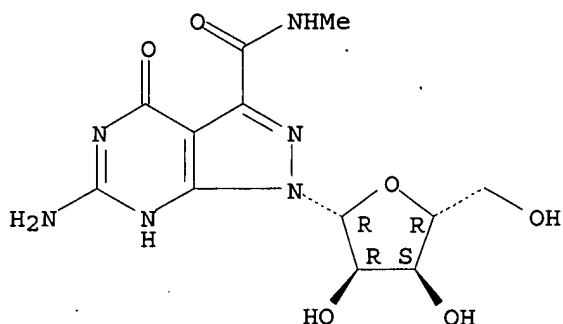
RL: CPN (Combinatorial preparation); CMBI (Combinatorial study); PREP (Preparation)

(solid phase synthesis and combinatorial libraries of deazapurine nucleosides useful in treatment of viral infections and neoplastic diseases)

RN 547754-42-7 CA

CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.



IT 547754-41-6DP, 4-methoxytrityl resin support 547754-42-7DP

, 4-methoxytrityl resin support

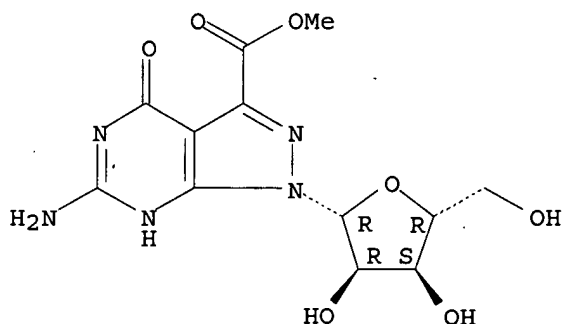
RL: CPN (Combinatorial preparation); CRT (Combinatorial reactant); RCT (Reactant); CMBI (Combinatorial study); PREP (Preparation); RACT (Reactant or reagent)

(solid phase synthesis and combinatorial libraries of deazapurine nucleosides useful in treatment of viral infections and neoplastic diseases)

RN 547754-41-6 CA

CN INDEX NAME NOT YET ASSIGNED

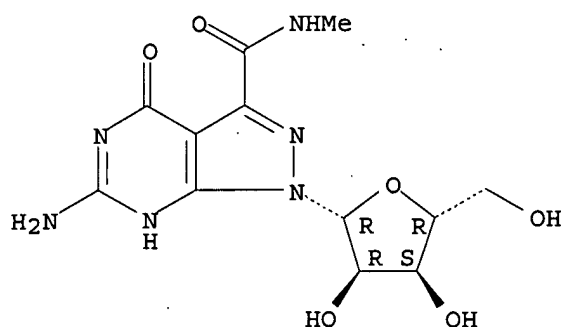
Absolute stereochemistry.



RN 547754-42-7 CA

CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.



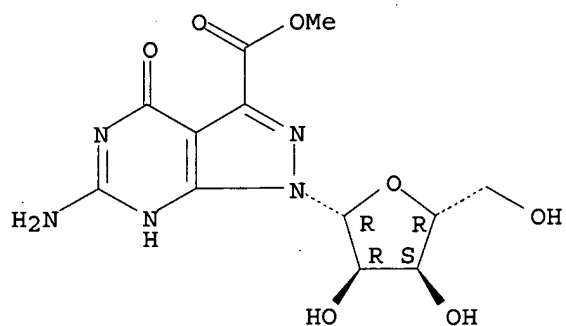
IT 547754-41-6

RL: CRT (Combinatorial reactant); RCT (Reactant); CMBI (Combinatorial study); RACT (Reactant or reagent)  
(solid phase synthesis and combinatorial libraries of deazapurine nucleosides useful in treatment of viral infections and neoplastic diseases)

RN 547754-41-6 CA

CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.



REFERENCE COUNT:

3

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB Oligonucleotides contg. 7-substituted 8-aza-7-deazaguanines (= 6-amino-1,5-dihydro-4H-pyrazolo[3,4-d]pyrimidin-4-ones) were prepd. by automated solid-phase synthesis. A series of 7-alkynylated 8-aza-7-deaza-2'-deoxyguanosines were synthesized with the 7-iodonucleoside as starting material and by the Pd0/CuI-catalyzed cross-coupling reaction with various alkynes. Phosphoramidites were prepd. from the 7-substituted 8-aza-7-deaza-2'-deoxyguanosine derivs. carrying halogeno, cyano, and hexynyl substituents. From the melting profiles of oligonucleotide duplexes, the T<sub>m</sub> values as well as the thermodyn. data were detd. A significant duplex stabilization by the 7-substituents was obsd. for the DNA .cntdot. DNA duplexes, but not in the case of DNA .cntdot. RNA hybrids.

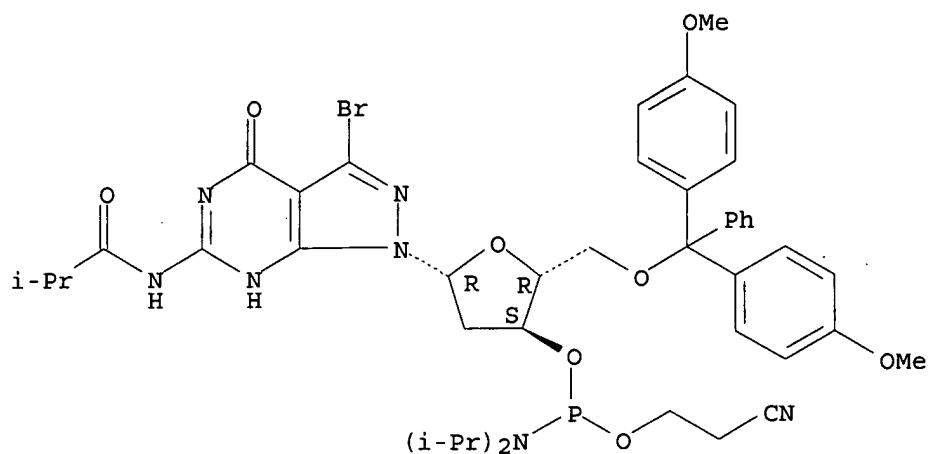
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of oligonucleotides contg. pyrazolo[3,4-d]pyrimidines and the  
influence of substituted deazadeoxyguanosines on the duplex structure  
and stability)

Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino][2-cyanoethoxy]phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-3-bromo-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-

yl]-2-methyl- (9CI) (CA INDEX NAME)

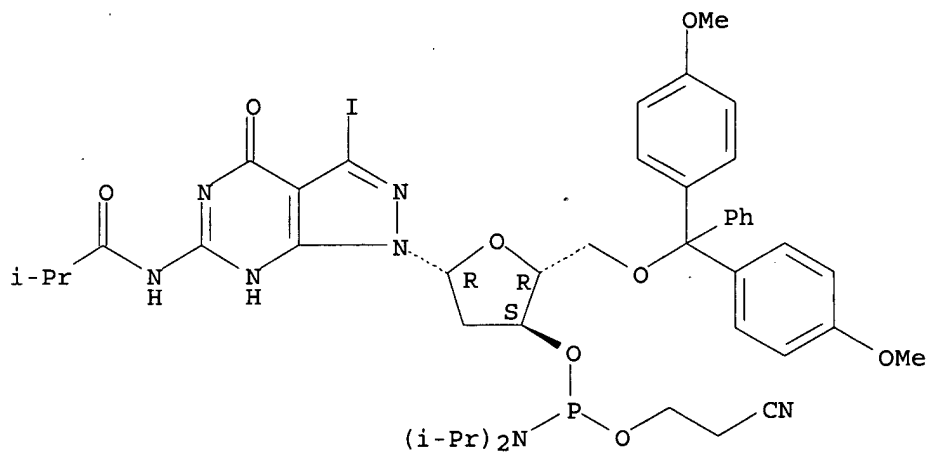
Absolute stereochemistry.



RN 183274-66-0 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-3-iodo-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

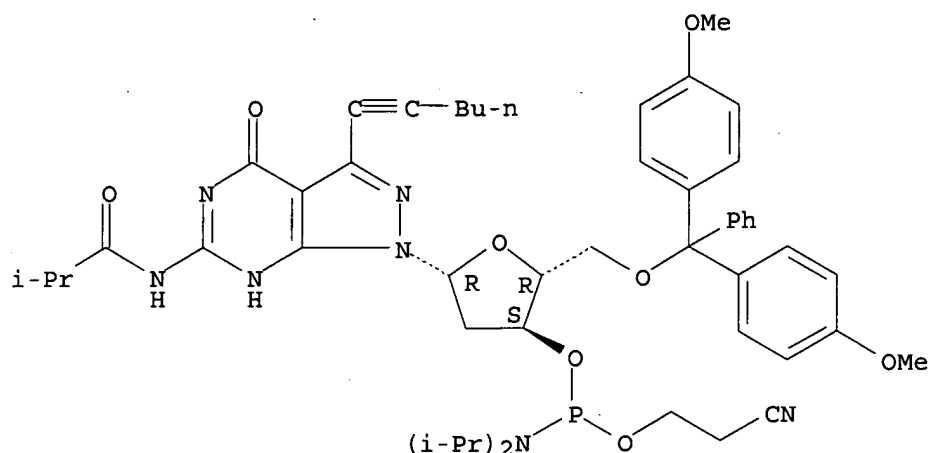
Absolute stereochemistry.



RN 252761-79-8 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-3-(1-hexynyl)-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1998:599079 CAPLUS

DOCUMENT NUMBER: 129:330959

TITLE: Stabilization of duplex DNA by 7-halogenated 8-aza-7-deazaguanines

AUTHOR(S): Seela, Frank; Becher, Georg

CORPORATE SOURCE: Institut fur Chemie, Laboratorium fur Organische und Bioorganische Chemie, Universitat Osnabruck, Osnabruck, D-49069, Germany

SOURCE: Chemical Communications (Cambridge) (1998), (18), 2017-2018

CODEN: CHCOFS; ISSN: 1359-7345

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Oligonucleotides contg. 7-halogenated 8-aza-7-deaza-2'-deoxyguanosine (c7z8Gd) derivs. such as d(Br7c7z8 G-C)4 8 (Tm = 88 .degree.C) and d(I7c7z8 G-C)4 9 (Tm = 84 .degree.C) are significantly more stable than d(G-C)4 5 (Tm = 59 .degree.C).

IT 183274-65-9P 183274-66-0P

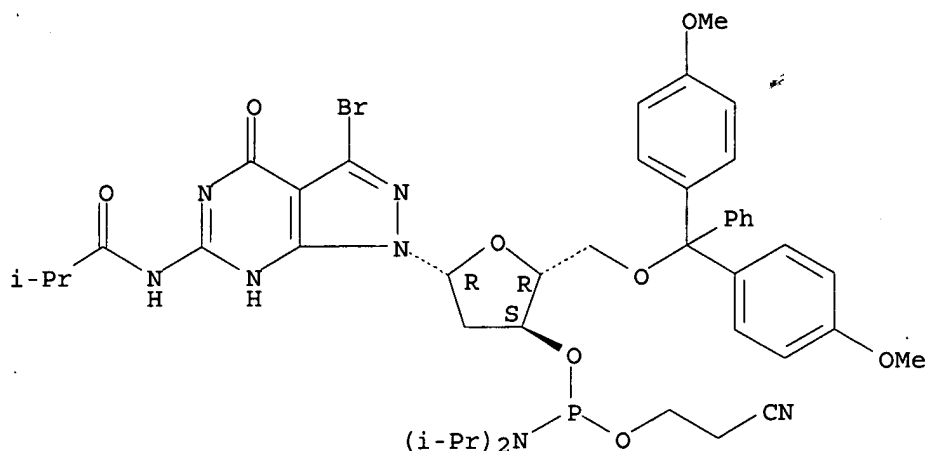
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(stabilization of duplex DNA by halogenated 8-aza-7-deaza-2-deoxyguanosines)

RN 183274-65-9 CAPLUS

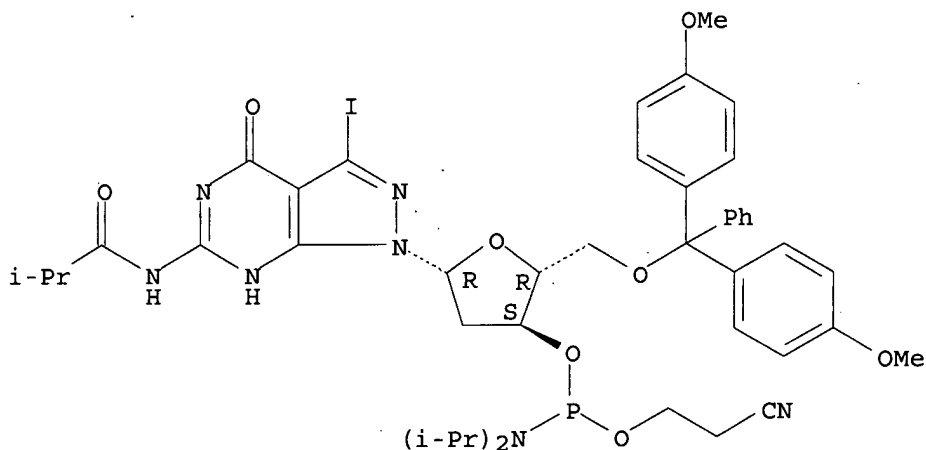
CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-3-bromo-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



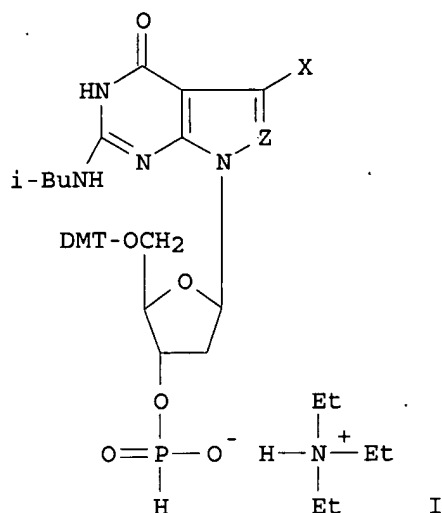
RN 183274-66-0 CAPLUS  
 CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-3-iodo-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1996:600970 CAPLUS  
 DOCUMENT NUMBER: 125:329249  
 TITLE: 7-Deazapurine DNA: oligonucleotides containing 7-substituted 7-deaza-2'-deoxyguanosine and 8-aza-7-deaza-2'-deoxyguanosine  
 AUTHOR(S): Seela, Frank; Ramzaeva, Natalya; Becher, Georg  
 CORPORATE SOURCE: Institut Chemie, Universitaet Osnabrueck, Osnabrueck, D-49069, Germany  
 SOURCE: Collection of Czechoslovak Chemical Communications (1996), 61(Spec. Issue), S258-S261  
 CODEN: CCCCAK; ISSN: 0010-0765  
 PUBLISHER: Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB The synthesis of 7-halo substituted 7-deaza- and 8-aza-7-deaza-2'-deoxyguanosines, their incorporation into oligonucleotides, and the stability of corresponding duplexes were described. For example, the nucleoside analogs I (Z = carbon, nitrogen; X = bromo, iodo) were incorporated into oligonucleoside analogs.

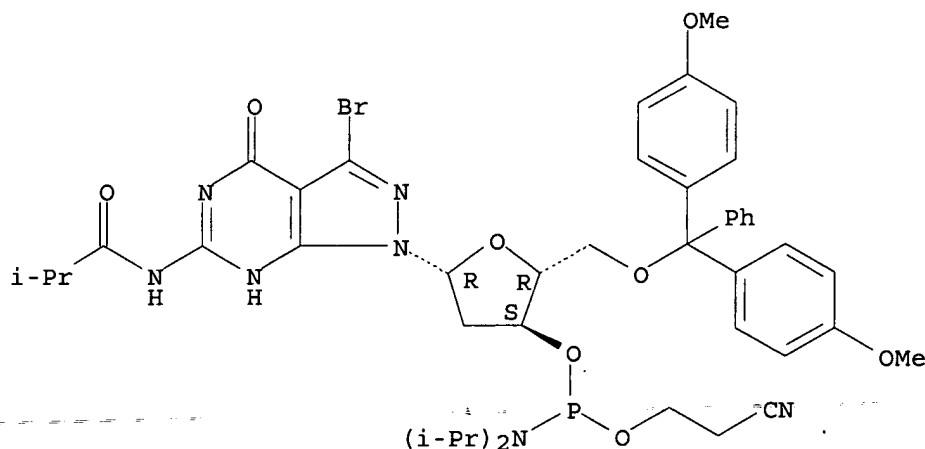
IT 183274-65-9P 183274-66-0P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of deazadeoxyguanosine and azadeazadeoxyguanosine-contg. oligonucleotides)

RN 183274-65-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-3-bromo-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

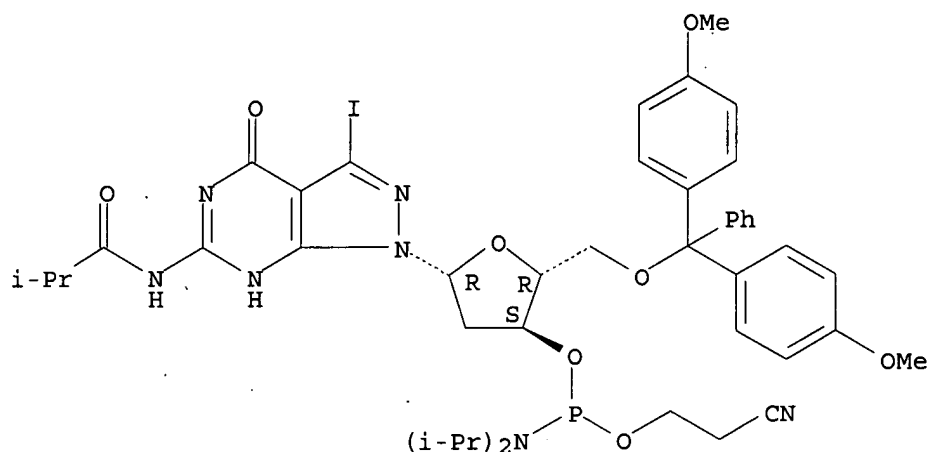


RN 183274-66-0 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-3-iodo-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-

2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



=> d 116 4-6 ibib abs hitstr

L16 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1990:119293 CAPLUS  
DOCUMENT NUMBER: 112:119293  
TITLE: Pyrazolo[3,4-d]pyrimidine 2'-deoxyribo- and  
2',3'-dideoxyribofuranosides: synthesis and  
application to oligonucleotide chemistry  
AUTHOR(S): Seela, F.; Driller, H.; Kaiser, K.; Rosemeyer, H.;  
Steker, H.  
CORPORATE SOURCE: Lab. Org. Bioorg. Chem., Univ. Osnabrueck, Fed. Rep.  
Ger.  
SOURCE: Nucleosides & Nucleotides (1989), Volume Date 1988,  
8(5-6), 789-92  
CODEN: NUNUD5; ISSN: 0732-8311  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 112:119293  
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB A symposium communication on the synthesis of pyrazolopyrimidine deoxyribonucleosides, e.g., I (R = NH<sub>2</sub>, H; R<sub>1</sub> = H, NH<sub>2</sub>) and II (R<sub>2</sub> = H, NH<sub>2</sub>), is described employing either liq.-liq. or solid-liq. phase-transfer glycosylation. From I (R = NH<sub>2</sub>, R<sub>1</sub> = H) and II (R<sub>2</sub> = NH<sub>2</sub>), the phosphoramidates III (R<sub>3</sub> = Me, CH<sub>2</sub>CH<sub>2</sub>CN, DMT = dimethoxytrityl) and IV were prep'd. They were used in automated solid-phase synthesis of 10 oligonucleotides. Deoxygenation of I (R = NH<sub>2</sub>, R<sub>1</sub> = H) and II (R<sub>2</sub> = NH<sub>2</sub>) yielded pyrazolopyrimidine 2',3'-dideoxynucleosides isosteric to ddA, ddG, and ddi.

IT 118907-75-8P 118907-76-9P

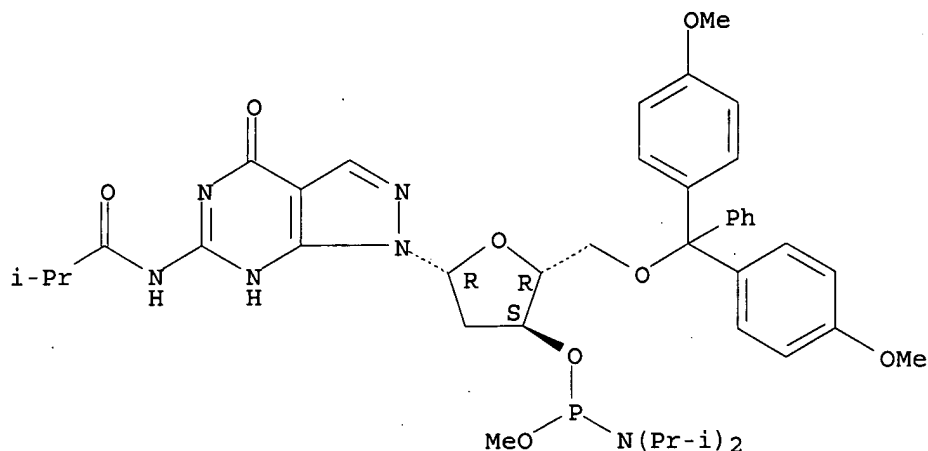
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, for synthesis of oligonucleotides)

RN 118907-75-8 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-

pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

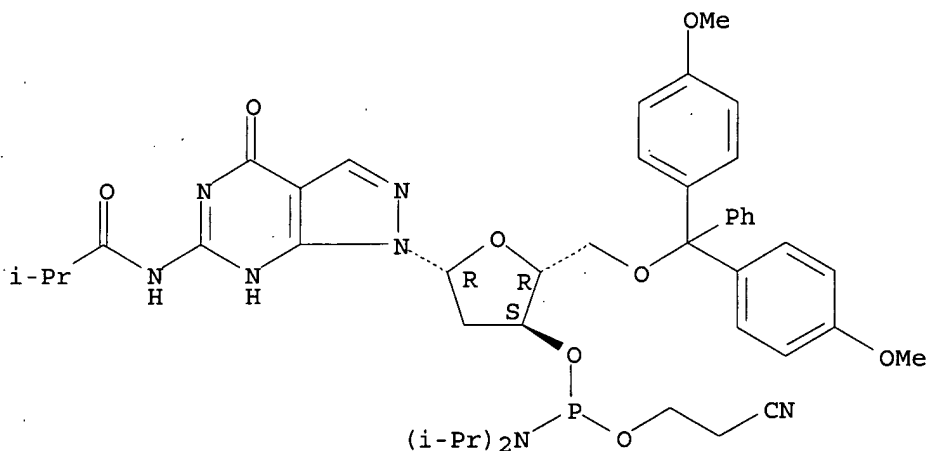
Absolute stereochemistry.



RN 118907-76-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1989:458263 CAPLUS

DOCUMENT NUMBER: 111:58263

TITLE: Alternating d(G-C)<sub>3</sub> and d(C-G)<sub>3</sub> hexanucleotides containing 7-deaza-2'-deoxyguanosine or 8-aza-7-deaza-2'-deoxyguanosine in place of dG

AUTHOR(S): Seela, Frank; Driller, Hansjuergen

CORPORATE SOURCE: Fachber. Biol./Chem., Univ. Osnabrueck, Osnabrueck, D-4500, Fed. Rep. Ger.

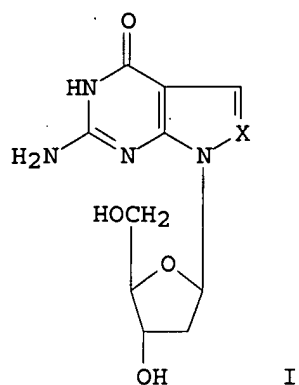
SOURCE: Nucleic Acids Research (1989), 17(3), 901-10

CODEN: NARHAD; ISSN: 0305-1048

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB The synthesis of alternating hexamers derived from d(C-G)<sub>3</sub> or d(G-C)<sub>3</sub> but contg. c7z8Gd (I, X = N) or c7Gd (I, X = CH) instead of dG is described employing phosphoramidite-chem. Apart from the isobutyryl group, the dimethylaminomethylene residue was used for the nucleobase-protection of I (X = CH). The methyl- and the cyanoethyl-phosphoramidites of I (X = CH) were prepd. They were employed together with those of c7G or c7z8Gd in automated oligonucleotide synthesis. T<sub>m</sub>-values as well as thermodyn. data of the oligomers indicated that duplexes were destabilized if c7Gd replaced dG, whereas c7z8Gd stabilized the duplex structure. In contrast to d(C-G)<sub>3</sub> which underwent salt-dependent B-Z transition, the CD spectra of oligomers contg. c7Gd or c7z8Gd in place of dG showed retained .beta.-conformation.

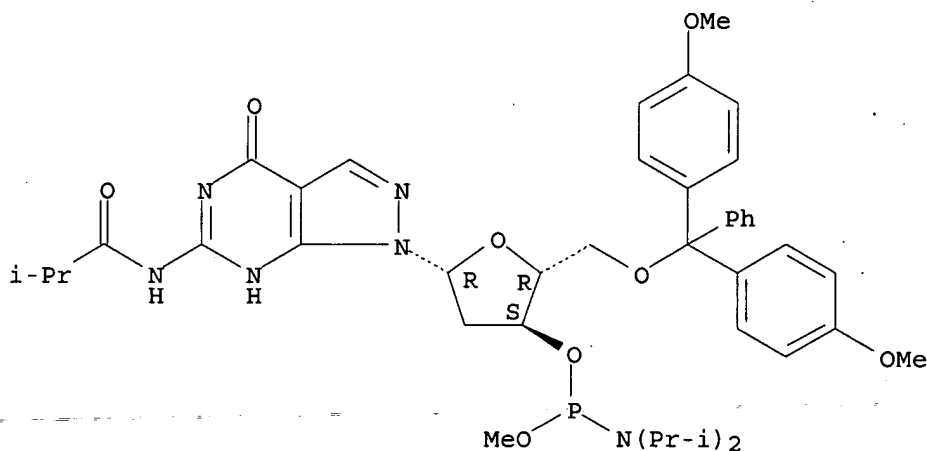
IT 118907-75-8 118907-76-9

RL: RCT (Reactant); RACT (Reactant or reagent)  
(use of, in synthesis of hexanucleotides)

RN 118907-75-8 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

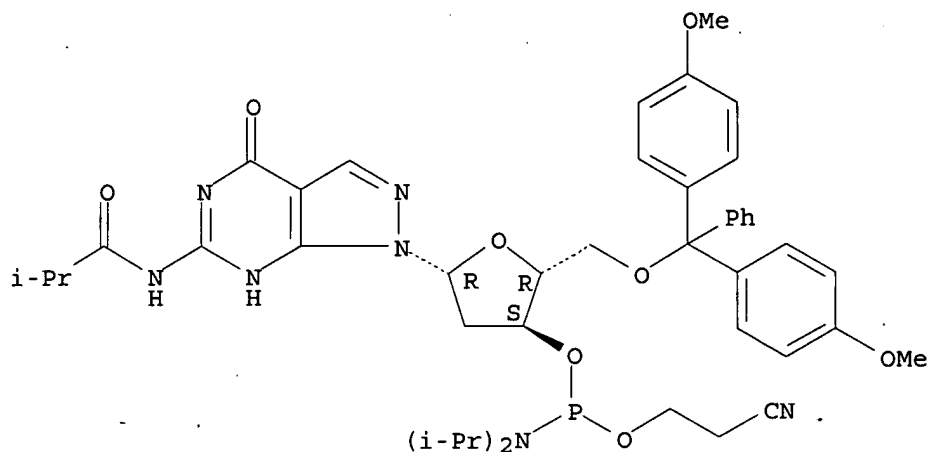


RN 118907-76-9 CAPLUS

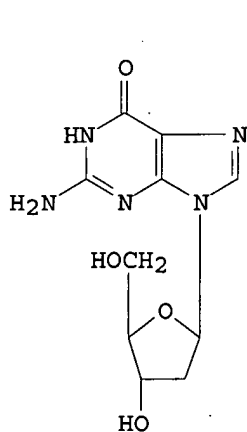
CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino] (2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-

methyl- (9CI) (CA INDEX NAME)

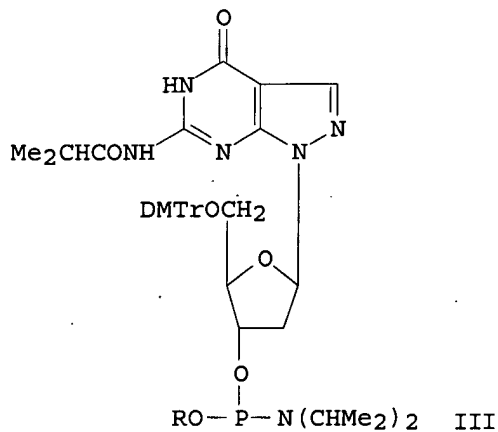
Absolute stereochemistry.



L16 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1989:75966 CAPLUS  
DOCUMENT NUMBER: 110:75966  
TITLE: 8-Aza-7-deaza-2'-deoxyguanosine: phosphoramidite  
synthesis and properties of octanucleotides  
AUTHOR(S): Seela, Frank; Driller, Hansjuergen  
CORPORATE SOURCE: Lab. Org. Bioorgan. Chem., Univ. Osnabrueck,  
Osnabrueck, D-4500, Fed. Rep. Ger.  
SOURCE: Helvetica Chimica Acta (1988), 71(5), 1191-8  
CODEN: HCACAV; ISSN: 0018-019X  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 110:75966  
GI



II



III

AB Base-modified octanucleotides derived from d(G1-G2-A-A-T-T-C-C) (I) but contg. 8-aza-7-deaza-2'-deoxyguanosine (II) instead of 2'-deoxyguanosine have been prep'd. by solid-phase synthesis employing P(III) chem. Isobutyrylation of II, followed by 4,4'-dimethoxytritylation and subsequent phosphitylation yielded the Me or the cyanoethyl phosphoramidites III [R = Me, (CH<sub>2</sub>)<sub>2</sub>CN], resp. They were used as building blocks in automated DNA synthesis. The resulting octanucleotides contg.

II showed increased  $T_m$  values compared to the parent oligomer I. The oligomers prepd. were employed as sequence-specific probes in endodeoxyribonuclease Eco RI oligonucleotide recognition. Whereas displacement of dG-2 (enzymic cleavage site of I) abolished phosphodiester hydrolysis, replacement of dG-1 enhanced the cleavage rate compared to I.

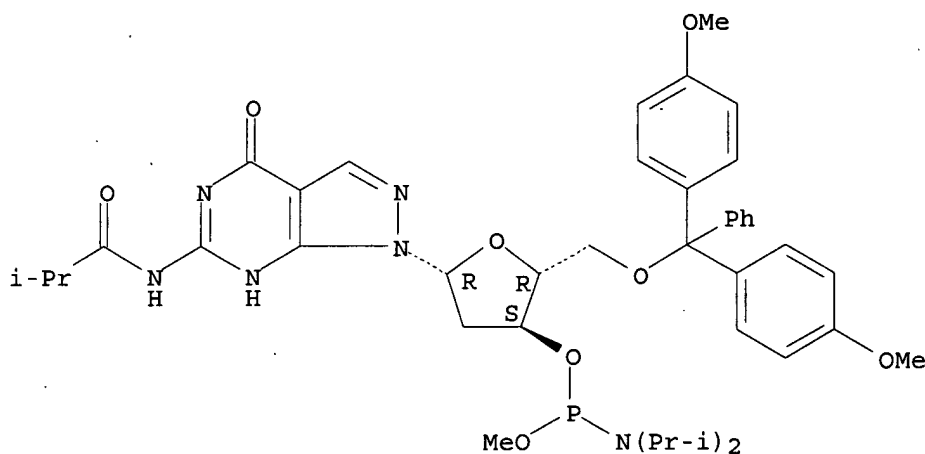
IT 118907-75-8P 118907-76-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, intermediate in synthesis of octanucleotides)

RN 118907-75-8 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

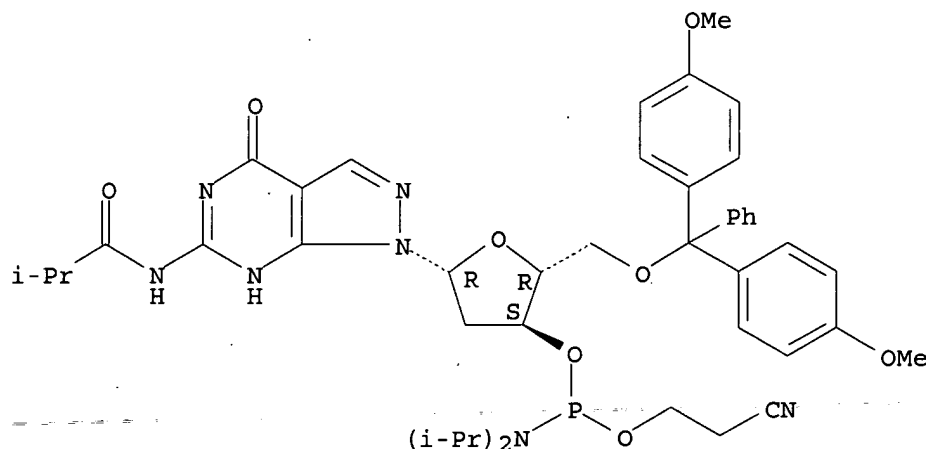
Absolute stereochemistry.



RN 118907-76-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



d his

(FILE 'HOME' ENTERED AT 14:45:51 ON 19 AUG 2003)

FILE 'REGISTRY' ENTERED AT 14:46:00 ON 19 AUG 2003

L1           STRUCTURE UPLOADED  
L2           5 S L1 SSS SAM  
L3           102 S L1 SSS FULL

FILE 'CAPLUS, MEDLINE' ENTERED AT 14:59:56 ON 19 AUG 2003

L4           47 S L3  
L5           0 S L3 AND PHOSPHORAMIDITE NUCLEOSIDE  
L6           3 S L3 AND PHOSPHORAMIDITE  
L7           3 DUP REM L6 (0 DUPLICATES REMOVED)  
L8           3 S L3 AND PHOSPHORAMIDITES  
L9           30 S L3 AND NUCLEOSIDE  
L10          5 S L9 AND PHOSP?

FILE 'REGISTRY' ENTERED AT 15:20:31 ON 19 AUG 2003

L11          STRUCTURE UPLOADED  
L12          0 S L11 SSS SAM  
L13          5 S L11 SSS FULL

FILE 'CAPLUS, MEDLINE' ENTERED AT 15:22:22 ON 19 AUG 2003

L14          6 S L13

FILE 'REGISTRY' ENTERED AT 15:22:53 ON 19 AUG 2003

L15          5 DUP REM L13 (0 DUPLICATES REMOVED)

FILE 'CAPLUS, MEDLINE' ENTERED AT 15:23:15 ON 19 AUG 2003

FILE 'CAPLUS, MEDLINE' ENTERED AT 15:23:31 ON 19 AUG 2003

L16          6 S L13

Uploading phos-nuc3.str

L17        STRUCTURE UPLOADED

=> d l17

YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS' - CONTINUE? (Y)/N:n

=> d l17

L17 HAS NO ANSWERS

L17                STR

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -    AVAILABLE VIA OFFLINE PRINT \*

Structure attributes must be viewed using STN Express query preparation.

=> s l17 sss sam

SAMPLE SEARCH INITIATED 15:30:34 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED -        6 TO ITERATE

100.0% PROCESSED            6 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:    ONLINE    \*\*COMPLETE\*\*

BATCH    \*\*COMPLETE\*\*

PROJECTED ITERATIONS:            6 TO        266

PROJECTED ANSWERS:                0 TO        0

L18            0 SEA SSS SAM L17

=> s l17 sss full

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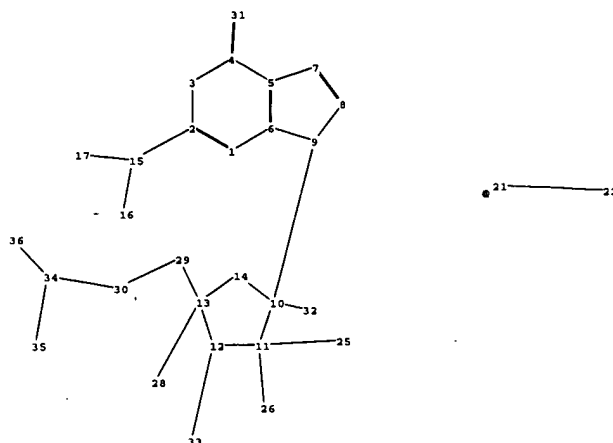
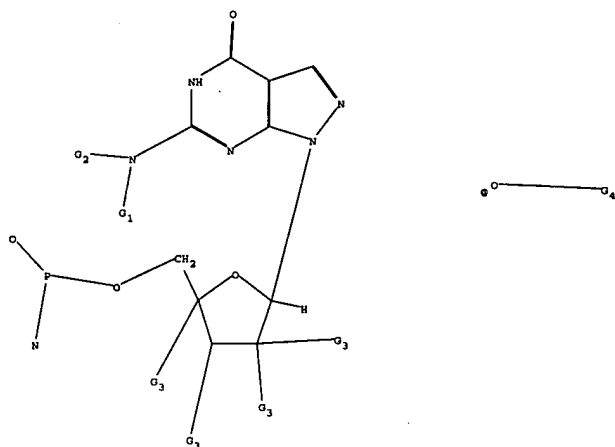
FULL SCREEN SEARCH COMPLETED -        67 TO ITERATE

100.0% PROCESSED            67 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

L19            0 SEA SSS FUL L17



chain nodes :

15 16 17 21 22 25 26 28 29 30 31 32 33 34 35 36

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14

chain bonds :

2-15 4-31 9-10 10-32 11-25 11-26 12-33 13-28 13-29 15-16 15-17 21-22 29-30  
30-34 34-35 34-36

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9 10-11 10-14 11-12 12-13 13-14

exact/norm bonds :

1-2 1-6 2-3 2-15 3-4 4-5 4-31 5-6 5-7 6-9 7-8 8-9 9-10 10-11 10-14 11-12  
11-25 11-26 12-13 12-33 13-14 13-28 15-16 15-17 21-22 30-34 34-35 34-36

exact bonds :

10-32 13-29 29-30

G1:H,Ak

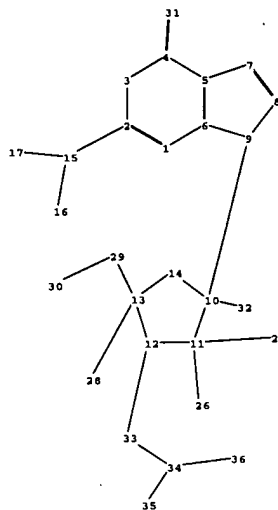
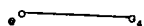
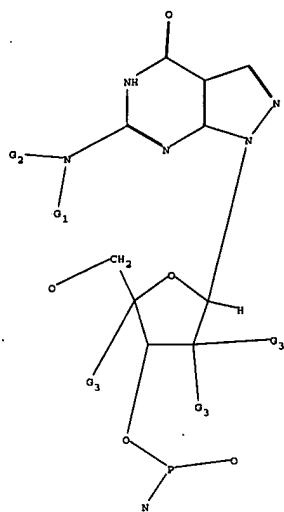
G2:H,Ak,N

G3:H,X,Ak

G4:H,Ak,O

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom  
12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS 17:CLASS 21:CLASS 22:CLASS 25:CLASS  
26:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS  
36:CLASS



chain nodes :

15 16 17 21 22 25 26 28 29 30 31 32 33 34 35 36

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14

chain bonds :

2-15 4-31 9-10 10-32 11-25 11-26 12-33 13-28 13-29 15-16 15-17 21-22 29-30  
33-34 34-35 34-36

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9 10-11 10-14 11-12 12-13 13-14

exact/norm bonds :

1-2 1-6 2-3 2-15 3-4 4-5 4-31 5-6 5-7 6-9 7-8 8-9 9-10 10-11 10-14 11-12  
11-25 11-26 12-13 12-33 13-14 13-28 15-16 15-17 21-22 33-34 34-35 34-36

exact bonds :

10-32 13-29 29-30

G1:H,Ak

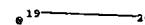
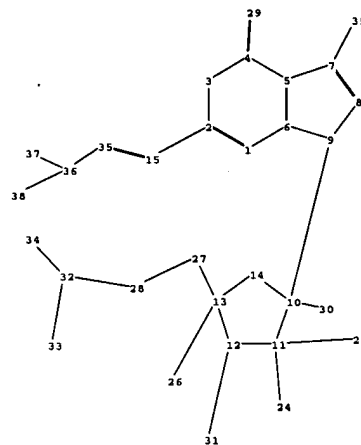
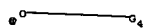
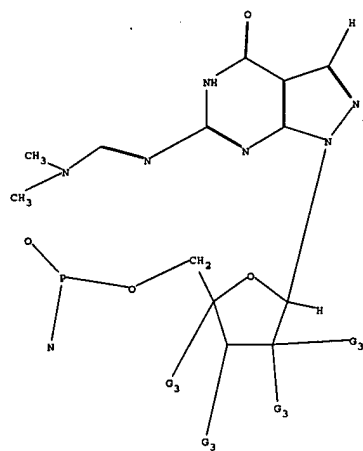
G2:H,Ak,N

G3:H,X,Ak

G4:H,Ak,O

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom  
12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS 17:CLASS 21:CLASS 22:CLASS 25:CLASS  
26:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS  
36:CLASS



chain nodes :  
 15 19 20 23 24 26 27 28 29 30 31 32 33 34 35 36 37 38 39  
 ring nodes :  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14  
 chain bonds :  
 2-15 4-29 7-39 9-10 10-30 11-23 11-24 12-31 13-26 13-27 15-35 19-20 27-28  
 28-32 32-33 32-34 35-36 36-37 36-38  
 ring bonds :  
 1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9 10-11 10-14 11-12 12-13 13-14  
 exact/norm bonds :  
 1-2 1-6 2-3 2-15 3-4 4-5 4-29 5-6 5-7 6-9 7-8 8-9 9-10 10-11 10-14 11-12  
 11-23 11-24 12-13 12-31 13-14 13-26 15-35 19-20 28-32 32-33 32-34 35-36  
 exact bonds :  
 7-39 10-30 13-27 27-28 36-37 36-38

G1:H,Ak

G2:H,Ak,N

G3:H,X,Ak

G4:H,Ak,O

Match level :  
 1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom  
 12:Atom 13:Atom 14:Atom 15:CLASS 19:CLASS 20:CLASS 23:CLASS 24:CLASS 26:CLASS  
 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS  
 36:CLASS 37:CLASS 38:CLASS 39:CLASS

ploading phos-nuc4.str

L1        STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1        STR

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

Structure attributes must be viewed using STN Express query preparation.

=> s l1 sss sam

SAMPLE SEARCH INITIATED 09:03:28 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED -        0 TO ITERATE

100.0% PROCESSED        0 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE    \*\*COMPLETE\*\*  
                         BATCH    \*\*COMPLETE\*\*

PROJECTED ITERATIONS:        0 TO        0

PROJECTED ANSWERS:            0 TO        0

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=> s l1 sss full

FULL SEARCH INITIATED 09:03:37 FILE 'REGISTRY'

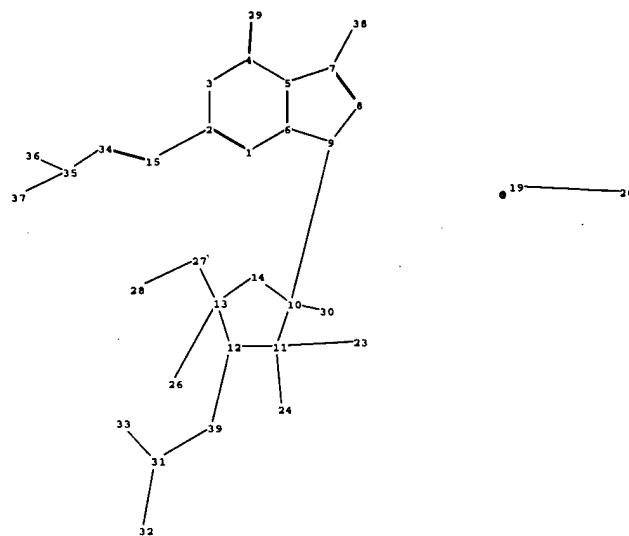
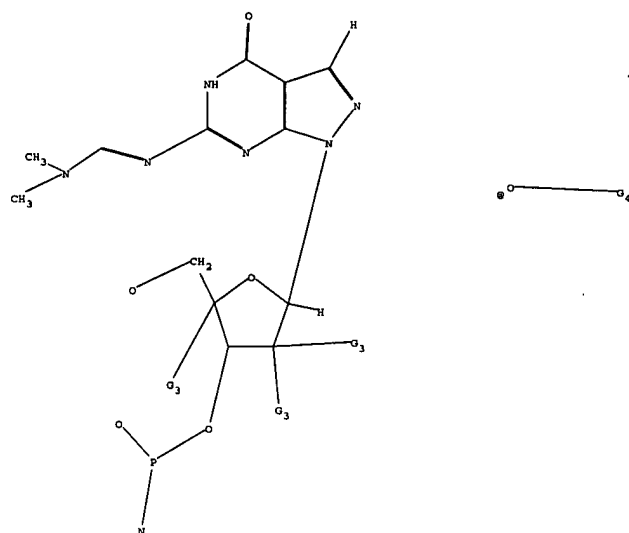
FULL SCREEN SEARCH COMPLETED -        25 TO ITERATE

100.0% PROCESSED        25 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

L3        0 SEA SSS FUL L1



chain nodes :

15 19 20 23 24 26 27 28 29 30 31 32 33 34 35 36 37 38 39

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14

chain bonds :

2-15 4-29 7-38 9-10 10-30 11-23 11-24 12-39 13-26 13-27 15-34 19-20 27-28  
31-33 31-32 31-39 34-35 35-36 35-37

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9 10-11 10-14 11-12 12-13 13-14

exact/norm bonds :

1-2 1-6 2-3 2-15 3-4 4-5 4-29 5-6 5-7 6-9 7-8 8-9 9-10 10-11 10-14 11-12  
11-23 11-24 12-13 12-39 13-14 13-26 15-34 19-20 31-33 31-32 31-39 34-35

exact bonds :

7-38 10-30 13-27 27-28 35-36 35-37

G1:H,Ak

G2:H,Ak,N

G3:H,X,Ak

G4:H,Ak,O

Match\_level\_:

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom  
12:Atom 13:Atom 14:Atom 15:CLASS 19:CLASS 20:CLASS 23:CLASS 24:CLASS 26:CLASS  
27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS  
36:CLASS 37:CLASS 38:CLASS 39:CLASS

loading phos-nuc5.str

L4 STRUCTURE UPLOADED

=> d l4

L4 HAS NO ANSWERS

L4 STR

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

Structure attributes must be viewed using STN Express query preparation.

=> s l4 sss sam

SAMPLE SEARCH INITIATED 09:06:30 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 0 TO ITERATE

100.0% PROCESSED 0 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 0 TO 0

PROJECTED ANSWERS: 0 TO 0

L5 0 SEA SSS SAM L4

=> s l4 sss full

FULL SEARCH INITIATED 09:06:38 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 25 TO ITERATE

100.0% PROCESSED 25 ITERATIONS

1 ANSWERS

SEARCH TIME: 00.00.01

L6 1 SEA SSS FUL L4

=> d scan

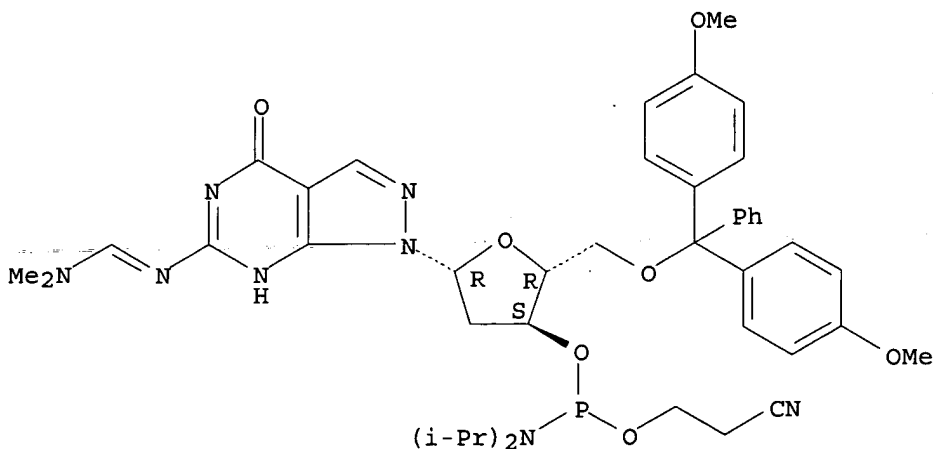
L6 1 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN

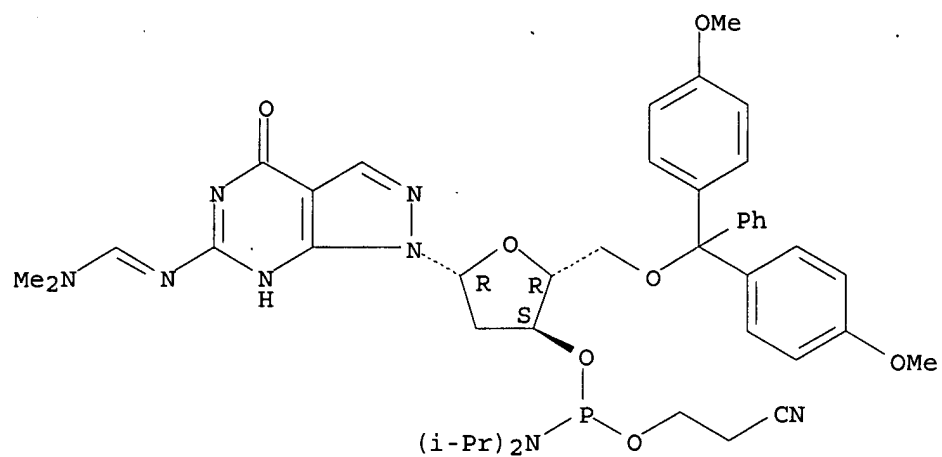
IN Methanimidamide, N'-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-N,N-dimethyl- (9CI)

MF C43 H53 N8 O7 P

Absolute stereochemistry.

Double bond geometry unknown.



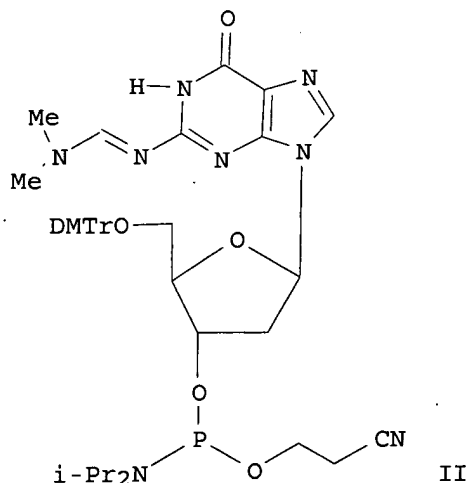
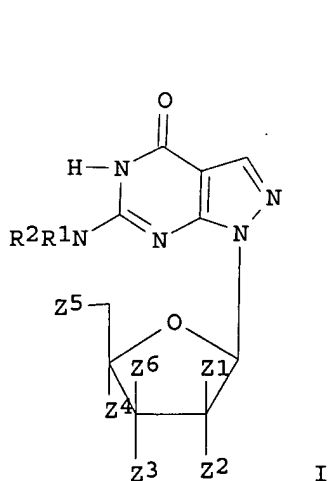


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

ALL ANSWERS HAVE BEEN SCANNED

L7 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2003:221699 CAPLUS  
 DOCUMENT NUMBER: 138:221790  
 TITLE: Process for the synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups  
 INVENTOR(S): Dempcy, Robert O.; Adams, A. David; Reed, Michael W.  
 PATENT ASSIGNEE(S): Epoch Biosciences, Inc., USA  
 SOURCE: PCT Int. Appl., 34 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003022859	A2	20030320	WO 2002-US28476	20020905
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003078413	A1	20030424	US 2001-954624	20010912
PRIORITY APPLN. INFO.:		US 2001-954624 A 20010912		
OTHER SOURCE(S):		CASREACT 138:221790; MARPAT 138:221790		
GI				



AB The present invention provides a nucleosides comprising a pyrazolopyrimidine base I and a process for producing the same. In particular, the processes of the present invention comprises using a halogenated pyrazolopyrimidine base and removing the halogen after the base is coupled to a sugar moiety. The presence of the halogen on the nucleoside base allows facile and economical prodn. of a large quantity of nucleosides. Thus, II was prep'd. via halogenation reaction and using photolabile hydroxy protecting groups.

IT 500891-26-9P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

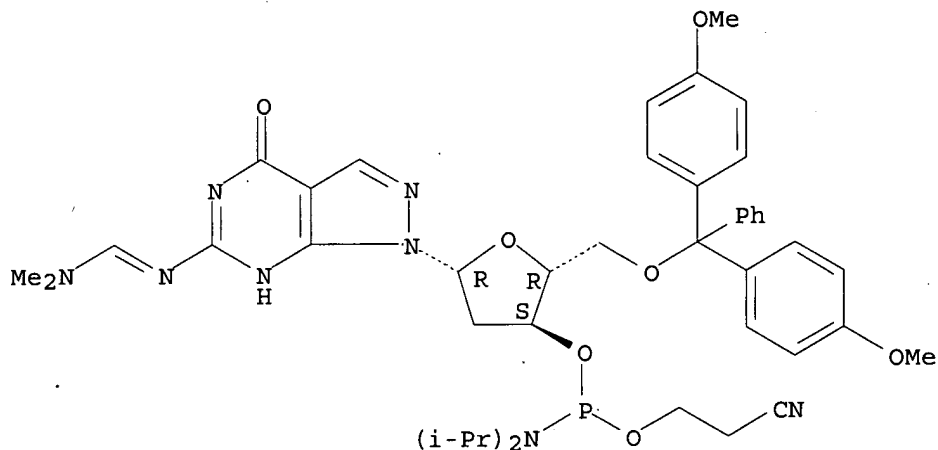
(process for synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups)

RN 500891-26-9 CAPLUS

CN Methanimidamide, N'-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-N,N-dimethyl- (9CI) (CA INDEX NAME)

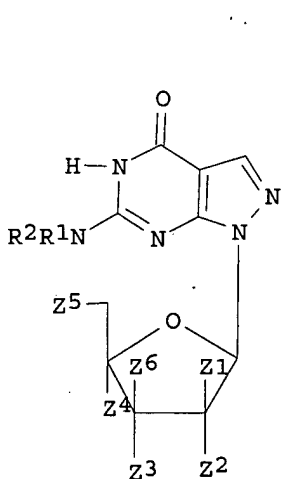
Absolute stereochemistry.

Double bond geometry unknown.

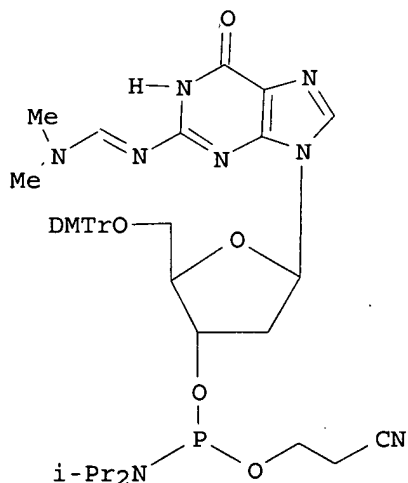


L7 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2003:221699 CAPLUS  
 DOCUMENT NUMBER: 138:221790  
 TITLE: Process for the synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups  
 INVENTOR(S): Dempcy, Robert O.; Adams, A. David; Reed, Michael W.  
 PATENT ASSIGNEE(S): Epoch Biosciences, Inc., USA  
 SOURCE: PCT Int. Appl., 34 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003022859	A2	20030320	WO 2002-US28476	20020905
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003078413	A1	20030424	US 2001-954624	20010912
PRIORITY APPLN. INFO.:			US 2001-954624	A 20010912
OTHER SOURCE(S):			CASREACT 138:221790; MARPAT 138:221790	
GI				



I



II

AB The present invention provides a nucleosides comprising a pyrazolopyrimidine base I and a process for producing the same. In particular, the processes of the present invention comprises using a halogenated pyrazolopyrimidine base and removing the halogen after the base is coupled to a sugar moiety. The presence of the halogen on the nucleoside base allows facile and economical prodn. of a large quantity of nucleosides. Thus, II was prepd. via halogenation reaction and using photolabile hydroxy protecting groups.

IT 500891-26-9P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

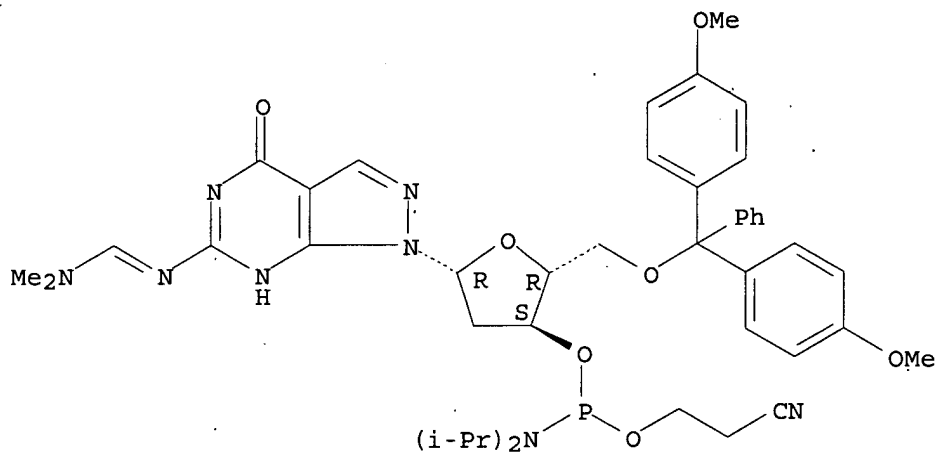
(process for synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups)

RN 500891-26-9 CAPLUS

CN Methanimidamide, N'-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-N,N-dimethyl-. (9CI) (CA INDEX NAME)

Absolute stereochemistry.

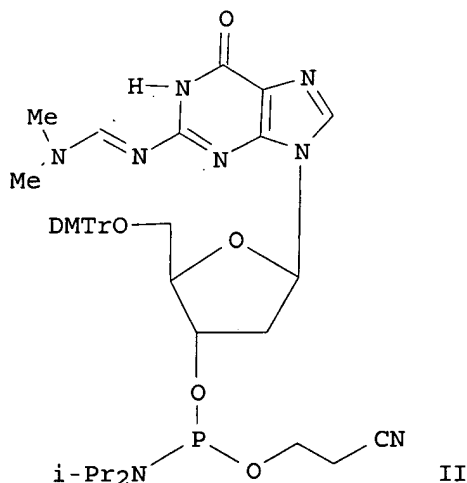
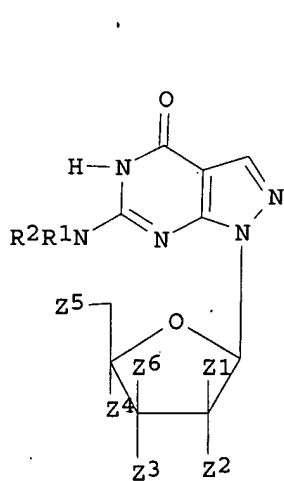
Double bond geometry unknown.



L13 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2003:221699 CAPLUS  
 DOCUMENT NUMBER: 138:221790  
 TITLE: Process for the synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups  
 INVENTOR(S): Dempcy, Robert O.; Adams, A. David; Reed, Michael W.  
 PATENT ASSIGNEE(S): Epoch Biosciences, Inc., USA  
 SOURCE: PCT Int. Appl., 34 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003022859	A2	20030320	WO 2002-US28476	20020905
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003078413	A1	20030424	US 2001-954624	20010912
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OTHER SOURCE(S):		CASREACT 138:221790; MARPAT 138:221790		

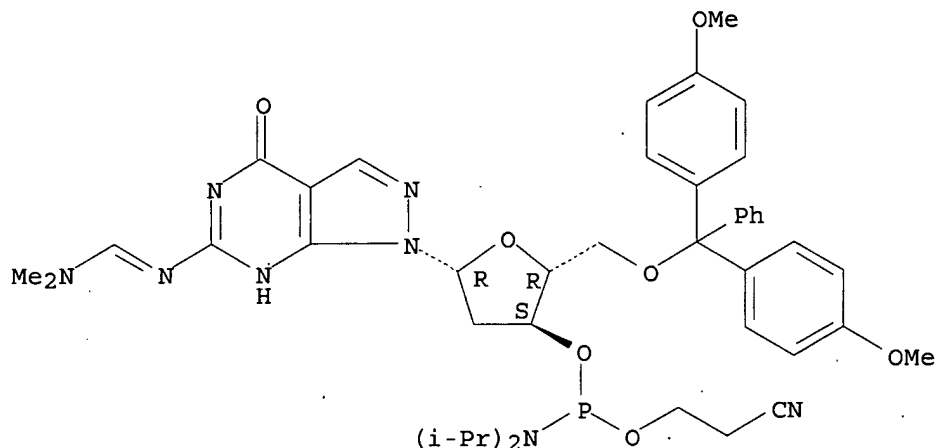
GI



AB The present invention provides a nucleosides comprising a pyrazolopyrimidine base I and a process for producing the same. In particular, the processes of the present invention comprises using a halogenated pyrazolopyrimidine base and removing the halogen after the base is coupled to a sugar moiety. The presence of the halogen on the nucleoside base allows facile and economical prodn. of a large quantity of nucleosides. Thus, II was prepd. via halogenation reaction and using photolabile hydroxy protecting groups.

IT 500891-26-9P  
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
 (process for synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups)  
 RN 500891-26-9 CAPLUS  
 CN Methanimidamide, N'-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-N,N-dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry unknown.



L13 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1999:693428 CAPLUS  
 DOCUMENT NUMBER: 132:64475  
 TITLE: Oligonucleotides containing pyrazolo[3,4-d]pyrimidines: the influence of 7-substituted 8-aza-7-deaza-2'-deoxyguanosines on the duplex structure and stability  
 AUTHOR(S): Seela, Frank; Becher, Georg  
 CORPORATE SOURCE: Laboratorium fur Organische und Bioorganische Chemie, Institut fur Chemie, Universitat Osnabruck, Osnabruck, D-49069, Germany  
 SOURCE: Helvetica Chimica Acta (1999), 82(10), 1640-1655  
 CODEN: HCACAV; ISSN: 0018-019X  
 PUBLISHER: Verlag Helvetica Chimica Acta  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Oligonucleotides contg. 7-substituted 8-aza-7-deazaguanines (= 6-amino-1,5-dihydro-4H-pyrazolo[3,4-d]pyrimidin-4-ones) were prepd. by automated solid-phase synthesis. A series of 7-alkynylated 8-aza-7-deaza-2'-deoxyguanosines were synthesized with the 7-iodonucleoside as starting material and by the Pd0/CuI-catalyzed cross-coupling reaction with various alkynes. Phosphoramidites were prepd. from the 7-substituted 8-aza-7-deaza-2'-deoxyguanosine derivs. carrying halogeno, cyano, and hexynyl substituents. From the melting profiles of oligonucleotide duplexes, the Tm values as well as the thermodyn. data were detd. A significant duplex stabilization by the 7-substituents was obsd. for the DNA .cntdot. DNA duplexes, but not in the case of DNA .cntdot. RNA hybrids.

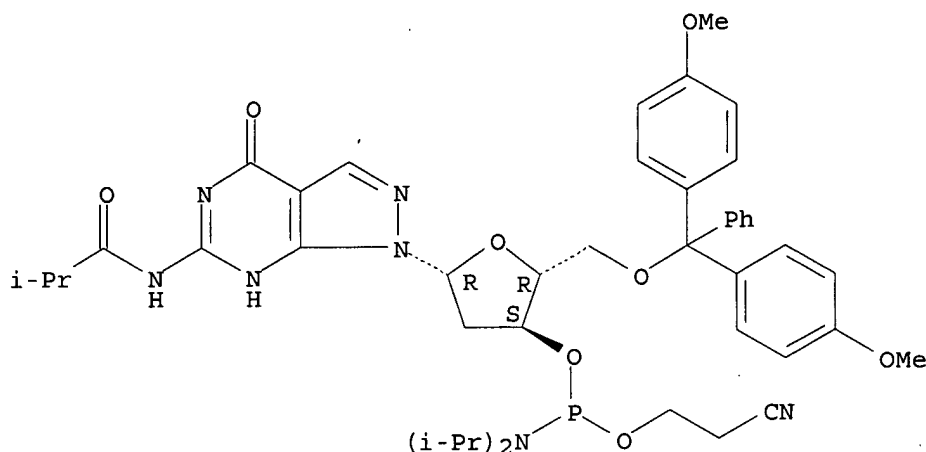
IT 118907-76-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of oligonucleotides contg. pyrazolo[3,4-d]pyrimidines and the

influence of substituted deazadeoxyguanosines on the duplex structure and stability)

RN 118907-76-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1990:119293 CAPLUS

DOCUMENT NUMBER: 112:119293

TITLE: Pyrazolo[3,4-d]pyrimidine 2'-deoxyribo- and 2',3'-dideoxyribofuranosides: synthesis and application to oligonucleotide chemistry

AUTHOR(S): Seela, F.; Driller, H.; Kaiser, K.; Rosemeyer, H.; Steker, H.

CORPORATE SOURCE: Lab. Org. Bioorg. Chem., Univ. Osnabrueck, Fed. Rep. Ger.

SOURCE: Nucleosides & Nucleotides (1989), Volume Date 1988, 8(5-6), 789-92

CODEN: NUNUD5; ISSN: 0732-8311

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 112:119293

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB A symposium communication on the synthesis of pyrazolopyrimidine deoxyribonucleosides, e.g., I (R = NH<sub>2</sub>, H; R<sub>1</sub> = H, NH<sub>2</sub>) and II (R<sub>2</sub> = H, NH<sub>2</sub>), is described employing either liq.-liq. or solid-liq. phase-transfer glycosylation. From I (R = NH<sub>2</sub>, R<sub>1</sub> = H) and II (R<sub>2</sub> = NH<sub>2</sub>), the phosphoramidates III (R<sub>3</sub> = Me, CH<sub>2</sub>CH<sub>2</sub>CN, DMT = dimethoxytrityl) and IV were prepd. They were used in automated solid-phase synthesis of 10 oligonucleotides. Deoxygenation of I (R = NH<sub>2</sub>, R<sub>1</sub> = H) and II (R<sub>2</sub> = NH<sub>2</sub>) yielded pyrazolopyrimidine 2',3'-dideoxynucleosides isosteric to ddA, ddG, and ddI.

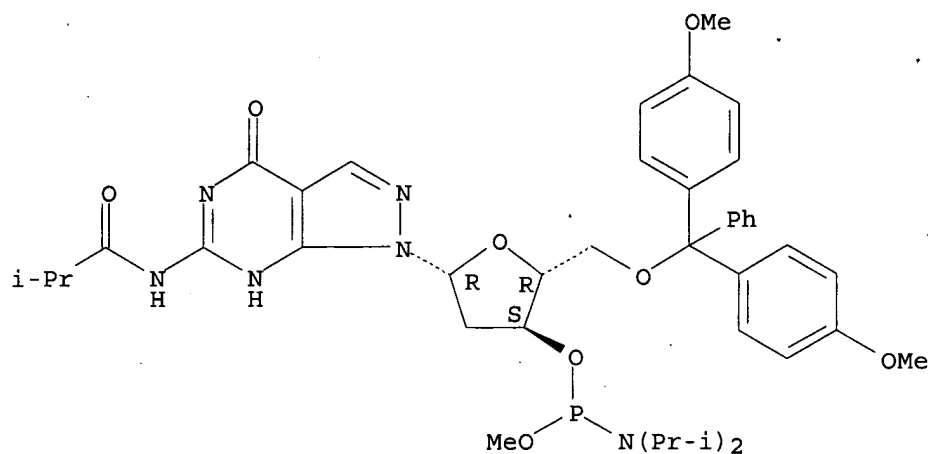
IT 118907-75-8P 118907-76-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, for synthesis of oligonucleotides)

RN 118907-75-8 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

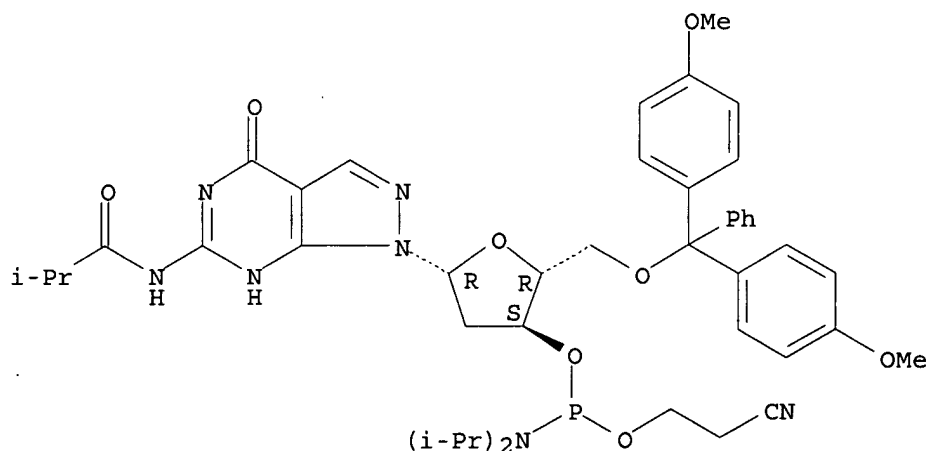
Absolute stereochemistry.



RN 118907-76-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L13 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1989:458263 CAPLUS

DOCUMENT NUMBER: 111:58263

TITLE: Alternating d(G-C)<sub>3</sub> and d(C-G)<sub>3</sub> hexanucleotides containing 7-deaza-2'-deoxyguanosine or 8-aza-7-deaza-2'-deoxyguanosine in place of dG

AUTHOR(S): Seela, Frank; Driller, Hansjuergen

CORPORATE SOURCE: Fachber. Biol./Chem., Univ. Osnabrueck, Osnabrueck, D-4500, Fed. Rep. Ger.

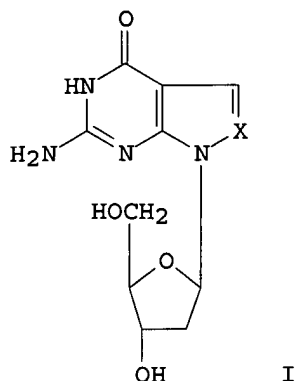
Nucleic Acids Research (1989), 17(3), 901-10

DOCUMENT TYPE:

LANGUAGE :

English

GI



AB The synthesis of alternating hexamers derived from d(C-G)<sub>3</sub> or d(G-C)<sub>3</sub> but contg. c7z8Gd (I, X = N) or c7Gd (I, X = CH) instead of dG is described employing phosphoramidite-chem. Apart from the isobutyryl group, the dimethylaminomethylene residue was used for the nucleobase-protection of I (X = CH). The methyl- and the cyanoethyl-phosphoramidites of I (X = CH) were prepd. They were employed together with those of c7G or c7z8Gd in automated oligonucleotide synthesis. T<sub>m</sub>-values as well as thermodyn. data of the oligomers indicated that duplexes were destabilized if c7Gd replaced dG, whereas c7z8Gd stabilized the duplex structure. In contrast to d(C-G)<sub>3</sub> which underwent salt-dependent B-Z transition, the CD spectra of oligomers contg. c7Gd or c7z8Gd in place of dG showed retained .beta.-conformation.

IT 118907-75-8 118907-76-9

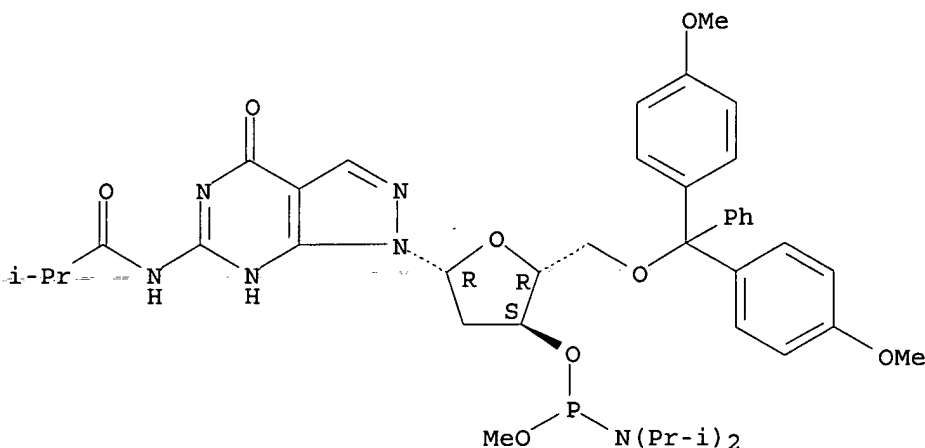
RL: RCT (Reactant); RACT (Reactant or reagent)

(use of, in synthesis of hexanucleotides)

RN 118907-75-8 CAPLUS

Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

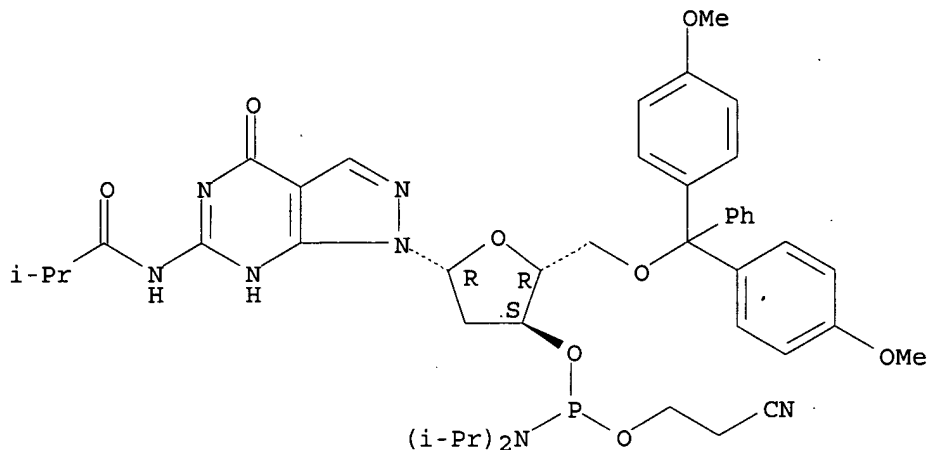
Absolute stereochemistry.



RN 118907-76-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L13 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1989:75966 CAPLUS

DOCUMENT NUMBER: 110:75966

TITLE: 8-Aza-7-deaza-2'-deoxyguanosine: phosphoramidite synthesis and properties of octanucleotides

AUTHOR(S): Seela, Frank; Driller, Hansjuergen

CORPORATE SOURCE: Lab. Org. Bioorgan. Chem., Univ. Osnabrueck, Osnabrueck, D-4500, Fed. Rep. Ger.

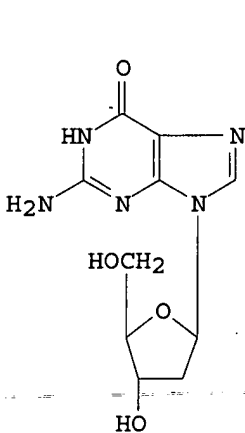
SOURCE: Helvetica Chimica Acta (1988), 71(5), 1191-8  
CODEN: HCACAV; ISSN: 0018-019X

DOCUMENT TYPE: Journal

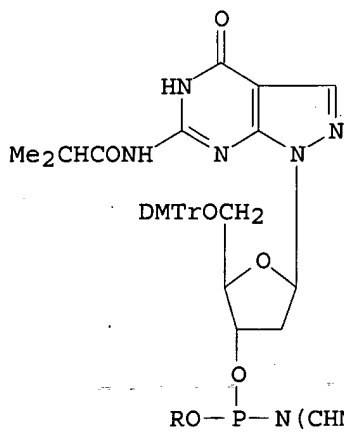
LANGUAGE: English

OTHER SOURCE(S): CASREACT 110:75966

GI



II



RO-P-N(CHMe2)2 III

AB Base-modified octanucleotides derived from d(G1-G2-A-A-T-T-C-C) (I) but contg. 8-aza-7-deaza-2'-deoxyguanosine (II) instead of 2'-deoxyguanosine have been prepd. by solid-phase synthesis employing P(III) chem.

Isobutyrylation of II, followed by 4,4'-dimethoxytritylation and subsequent phosphitylation yielded the Me or the cyanoethyl phosphoramidites III [R = Me, (CH<sub>2</sub>)<sub>2</sub>CN], resp. They were used as building blocks in automated DNA synthesis. The resulting octanucleotides contg. II showed increased T<sub>m</sub> values compared to the parent oligomer I. The oligomers prepd. were employed as sequence-specific probes in endodeoxyribonuclease Eco RI oligonucleotide recognition. Whereas displacement of dG-2 (enzymic cleavage site of I) abolished phosphodiester hydrolysis, replacement of dG-1 enhanced the cleavage rate compared to I.

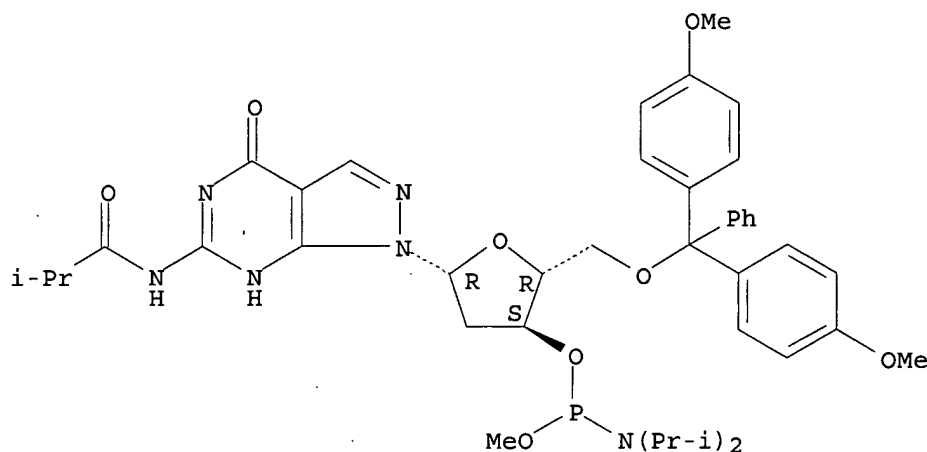
IT 118907-75-8P 118907-76-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, intermediate in synthesis of octanucleotides)

RN 118907-75-8 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

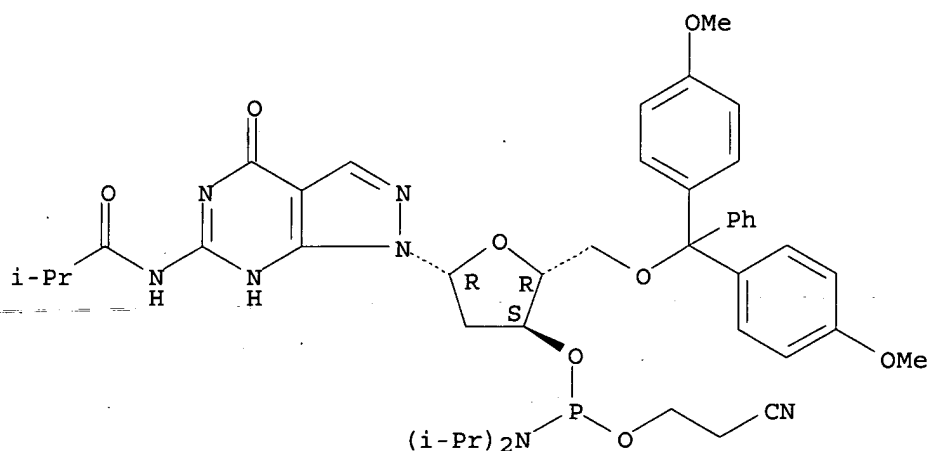
Absolute stereochemistry.



RN 118907-76-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



=> d his

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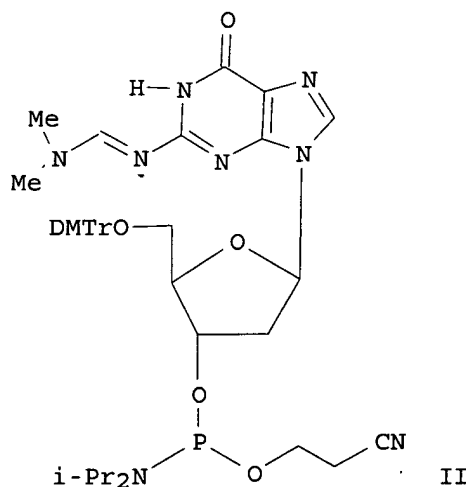
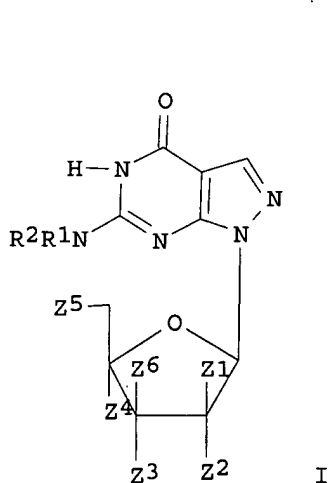
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L13 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2003:221699 CAPLUS  
 DOCUMENT NUMBER: 138:221790  
 TITLE: Process for the synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups  
 INVENTOR(S): Dempsy, Robert O.; Adams, A. David; Reed, Michael W.  
 PATENT ASSIGNEE(S): Epoch Biosciences, Inc., USA  
 SOURCE: PCT Int. Appl., 34 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

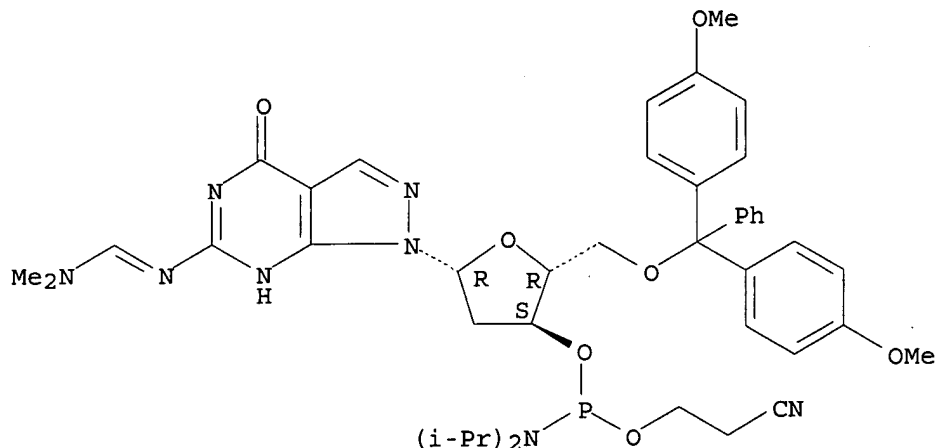
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003022859	A2	20030320	WO 2002-US28476	20020905
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003078413	A1	20030424	US 2001-954624	20010912
PRIORITY APPLN. INFO.:			US 2001-954624	A 20010912
OTHER SOURCE(S):		CASREACT 138:221790; MARPAT 138:221790		
GI				



AB The present invention provides a nucleosides comprising a pyrazolopyrimidine base I and a process for producing the same. In particular, the processes of the present invention comprises using a halogenated pyrazolopyrimidine base and removing the halogen after the base is coupled to a sugar moiety. The presence of the halogen on the nucleoside base allows facile and economical prodn. of a large quantity of nucleosides. Thus, II was prepd. via halogenation reaction and using photolabile hydroxy protecting groups.

IT 500891-26-9P  
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
 (process for synthesis of pyrazolopyrimidine nucleosides via halogenation reaction and using photolabile hydroxy protecting groups)  
 RN 500891-26-9 CAPLUS  
 CN Methanimidamide, N'-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-N,N-dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry unknown.



L13 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1999:693428 CAPLUS  
 DOCUMENT NUMBER: 132:64475  
 TITLE: Oligonucleotides containing pyrazolo[3,4-d]pyrimidines: the influence of 7-substituted 8-aza-7-deaza-2'-deoxyguanosines on the duplex structure and stability  
 AUTHOR(S): Seela, Frank; Becher, Georg  
 CORPORATE SOURCE: Laboratorium fur Organische und Bioorganische Chemie, Institut fur Chemie, Universitat Osnabruck, Osnabruck, D-49069, Germany  
 SOURCE: Helvetica Chimica Acta (1999), 82(10), 1640-1655  
 CODEN: HCACAV; ISSN: 0018-019X  
 PUBLISHER: Verlag Helvetica Chimica Acta  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Oligonucleotides contg. 7-substituted 8-aza-7-deazaguanines (= 6-amino-1,5-dihydro-4H-pyrazolo[3,4-d]pyrimidin-4-ones) were prepd. by automated solid-phase synthesis. A series of 7-alkynylated 8-aza-7-deaza-2'-deoxyguanosines were synthesized with the 7-iodonucleoside as starting material and by the Pd0/CuI-catalyzed cross-coupling reaction with various alkynes. Phosphoramidites were prepd. from the 7-substituted 8-aza-7-deaza-2'-deoxyguanosine derivs. carrying halogeno, cyano, and hexynyl substituents. From the melting profiles of oligonucleotide duplexes, the Tm values as well as the thermodyn. data were detd. A significant duplex stabilization by the 7-substituents was obsd. for the DNA .cntdot. DNA duplexes, but not in the case of DNA .cntdot. RNA hybrids.

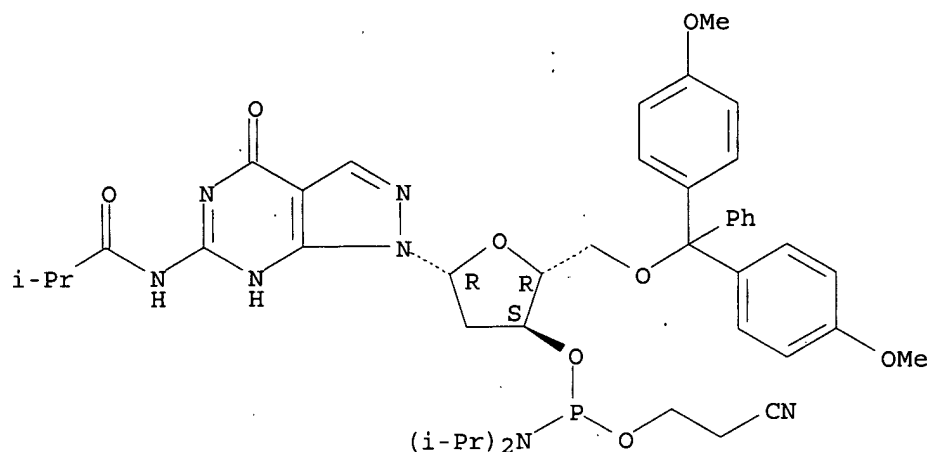
IT 118907-76-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of oligonucleotides contg. pyrazolo[3,4-d]pyrimidines and the

influence of substituted deazadeoxyguanosines on the duplex structure and stability)

RN 118907-76-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1990:119293 CAPLUS

DOCUMENT NUMBER: 112:119293

TITLE: Pyrazolo[3,4-d]pyrimidine 2'-deoxyribo- and 2',3'-dideoxyribofuranosides: synthesis and application to oligonucleotide chemistry

AUTHOR(S): Seela, F.; Driller, H.; Kaiser, K.; Rosemeyer, H.; Steker, H.

CORPORATE SOURCE: Lab. Org. Bioorg. Chem., Univ. Osnabrueck, Fed. Rep. Ger.

SOURCE: Nucleosides & Nucleotides (1989), Volume Date 1988, 8(5-6), 789-92

CODEN: NUNUD5; ISSN: 0732-8311

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 112:119293

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\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB A symposium communication on the synthesis of pyrazolopyrimidine deoxyribonucleosides, e.g., I (R = NH<sub>2</sub>, H; R<sub>1</sub> = H, NH<sub>2</sub>) and II (R<sub>2</sub> = H, NH<sub>2</sub>), is described employing either liq.-liq. or solid-liq. phase-transfer glycosylation. From I (R = NH<sub>2</sub>, R<sub>1</sub> = H) and II (R<sub>2</sub> = NH<sub>2</sub>), the phosphoramidates III (R<sub>3</sub> = Me, CH<sub>2</sub>CH<sub>2</sub>CN, DMT = dimethoxytrityl) and IV were prepd. They were used in automated solid-phase synthesis of 10 oligonucleotides. Deoxygenation of I (R = NH<sub>2</sub>, R<sub>1</sub> = H) and II (R<sub>2</sub> = NH<sub>2</sub>) yielded pyrazolopyrimidine 2',3'-dideoxynucleosides isosteric to ddA, ddG, and ddI.

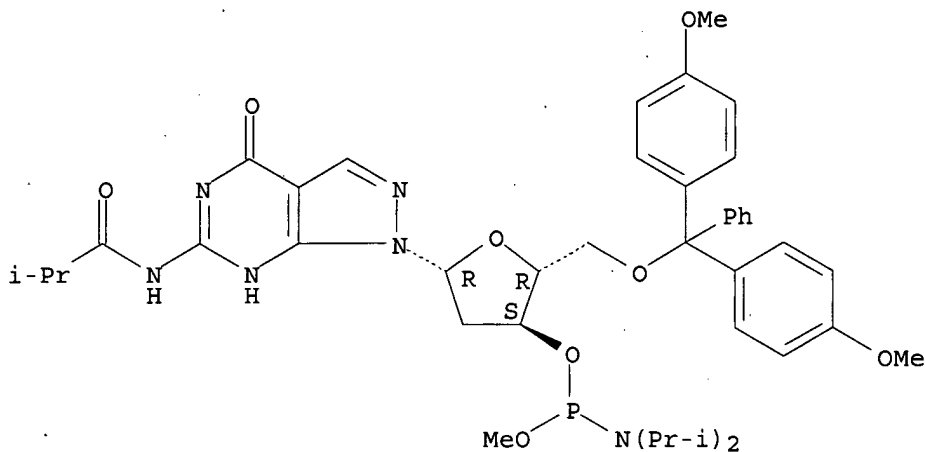
IT 118907-75-8P 118907-76-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, for synthesis of oligonucleotides)

RN 118907-75-8 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

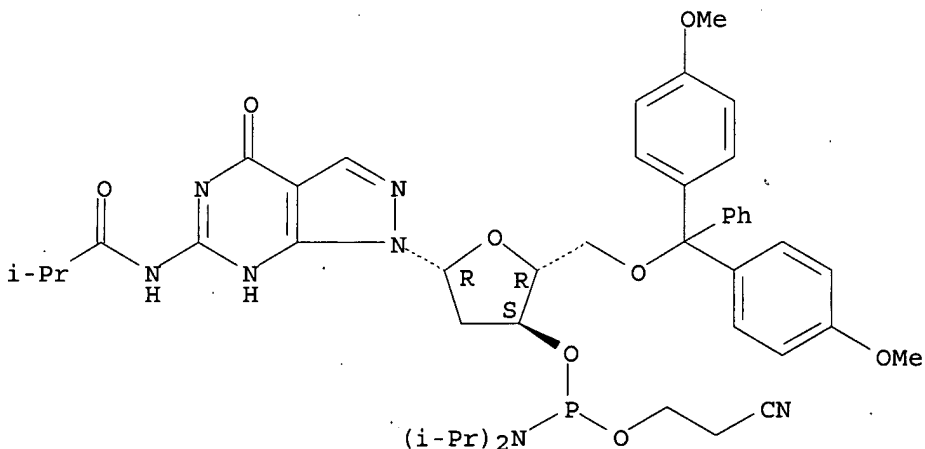
Absolute stereochemistry.



RN 118907-76-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L13 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1989:458263 CAPLUS

DOCUMENT NUMBER: 111:58263

TITLE: Alternating d(G-C)3 and d(C-G)3 hexanucleotides containing 7-deaza-2'-deoxyguanosine or 8-aza-7-deaza-2'-deoxyguanosine in place of dG

AUTHOR(S): Seela, Frank; Driller, Hansjuergen

CORPORATE SOURCE: Fachber. Biol./Chem., Univ. Osnabrueck, Osnabrueck, D-4500, Fed. Rep. Ger.

SOURCE:

Nucleic Acids Research (1989), 17(3), 901-10

CODEN: NARHAD; ISSN: 0305-1048

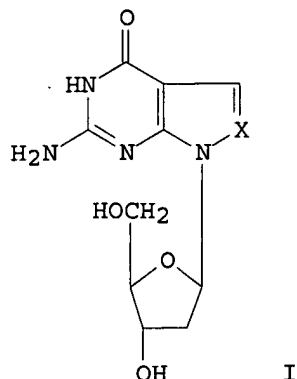
DOCUMENT TYPE:

Journal

LANGUAGE:

English

GI



AB The synthesis of alternating hexamers derived from d(C-G)<sub>3</sub> or d(G-C)<sub>3</sub> but contg. c7z8Gd (I, X = N) or c7Gd (I, X = CH) instead of dG is described employing phosphoramidite-chem. Apart from the isobutyryl group, the dimethylaminomethylene residue was used for the nucleobase-protection of I (X = CH). The methyl- and the cyanoethyl-phosphoramidites of I (X = CH) were prepd. They were employed together with those of c7G or c7z8Gd in automated oligonucleotide synthesis. T<sub>m</sub>-values as well as thermodyn. data of the oligomers indicated that duplexes were destabilized if c7Gd replaced dG, whereas c7z8Gd stabilized the duplex structure. In contrast to d(C-G)<sub>3</sub> which underwent salt-dependent B-Z transition, the CD spectra of oligomers contg. c7Gd or c7z8Gd in place of dG showed retained .beta.-conformation.

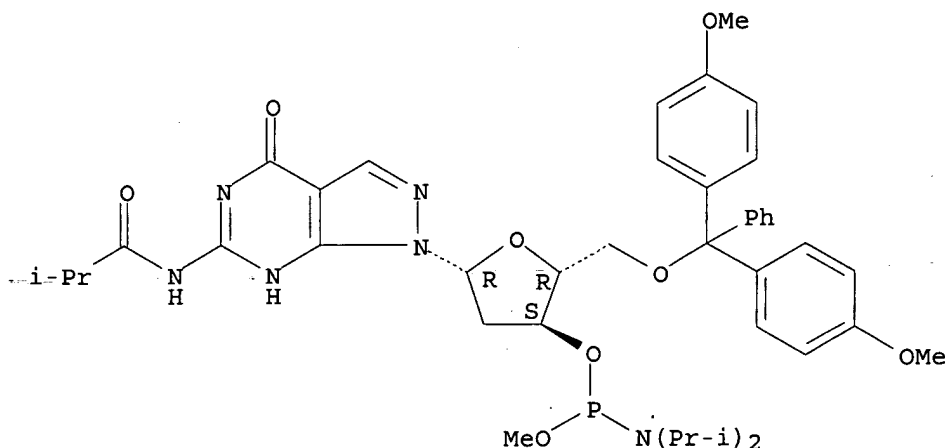
IT 118907-75-8 118907-76-9

RL: RCT (Reactant); RACT (Reactant or reagent)  
(use of, in synthesis of hexanucleotides)

RN 118907-75-8 CAPLUS

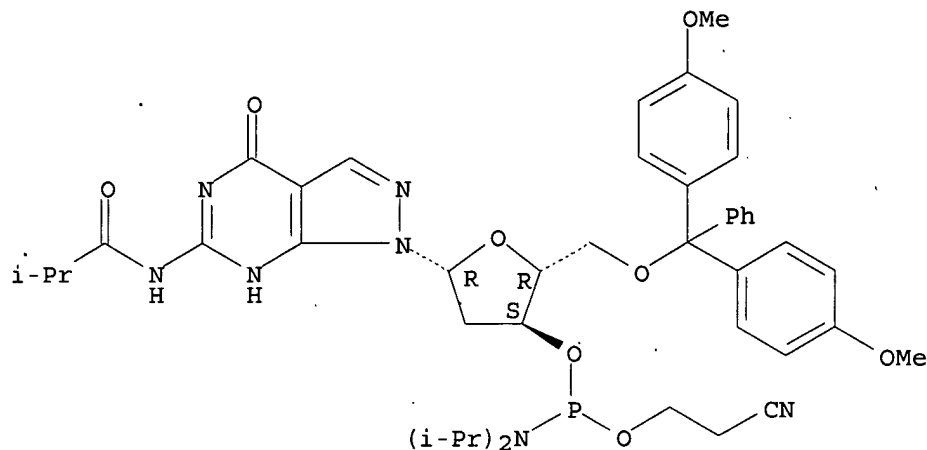
CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

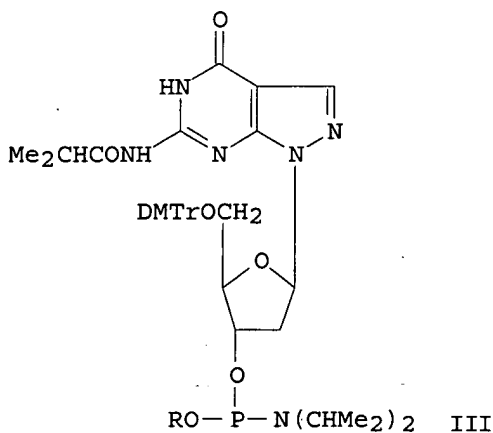
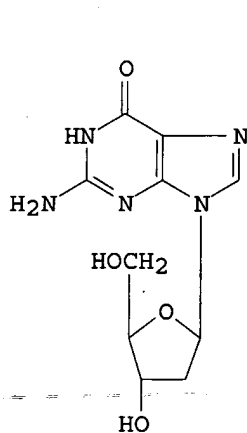


RN 118907-76-9 CAPLUS  
 CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L13 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1989:75966 CAPLUS  
 DOCUMENT NUMBER: 110:75966  
 TITLE: 8-Aza-7-deaza-2'-deoxyguanosine: phosphoramidite synthesis and properties of octanucleotides  
 AUTHOR(S): Seela, Frank; Driller, Hansjuergen  
 CORPORATE SOURCE: Lab. Org. Bioorgan. Chem., Univ. Osnabrueck, Osnabrueck, D-4500, Fed. Rep. Ger.  
 SOURCE: Helvetica Chimica Acta (1988), 71(5), 1191-8  
 CODEN: HCACAV; ISSN: 0018-019X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 110:75966  
 GI



AB Base-modified octanucleotides derived from d(G1-G2-A-A-T-T-C-C) (I) but contg. 8-aza-7-deaza-2'-deoxyguanosine (II) instead of 2'-deoxyguanosine have been prep'd. by solid-phase synthesis employing P(III) chem.

Isobutyrylation of II, followed by 4,4'-dimethoxytritylation and subsequent phosphitylation yielded the Me or the cyanoethyl phosphoramidites III [R = Me, (CH<sub>2</sub>)<sub>2</sub>CN], resp. They were used as building blocks in automated DNA synthesis. The resulting octanucleotides contg. II showed increased T<sub>m</sub> values compared to the parent oligomer I. The oligomers prepd. were employed as sequence-specific probes in endodeoxyribonuclease Eco RI oligonucleotide recognition. Whereas displacement of dG-2 (enzymic cleavage site of I) abolished phosphodiester hydrolysis, replacement of dG-1 enhanced the cleavage rate compared to I.

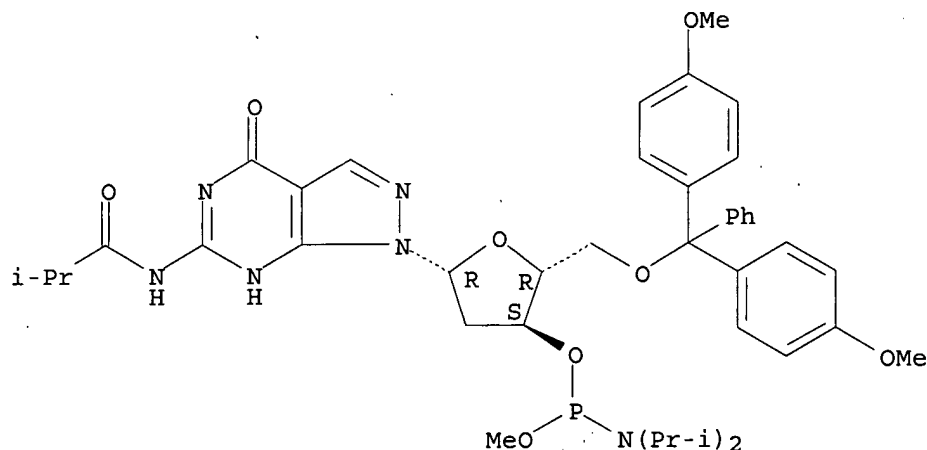
IT 118907-75-8P 118907-76-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, intermediate in synthesis of octanucleotides)

RN 118907-75-8 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

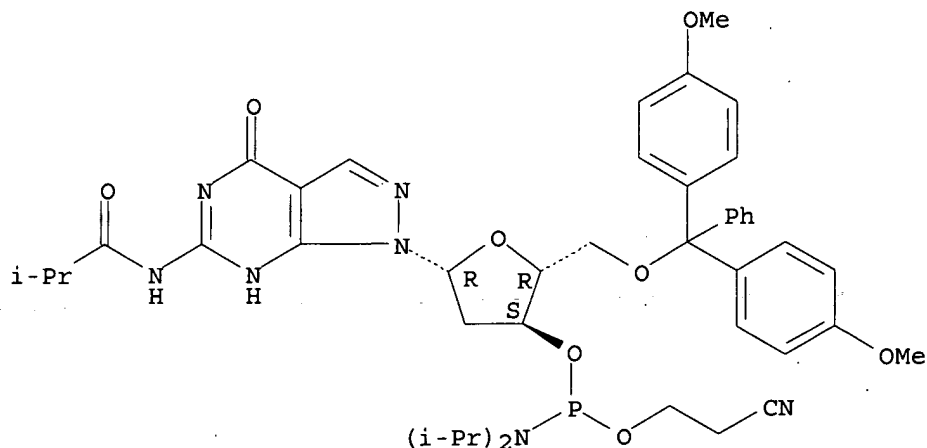
Absolute stereochemistry.

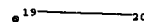
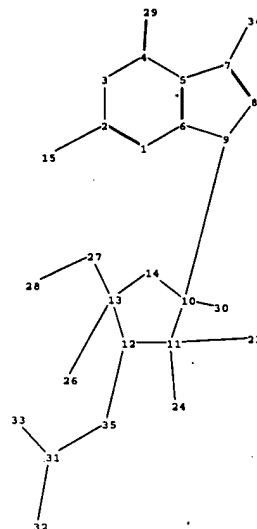
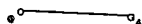
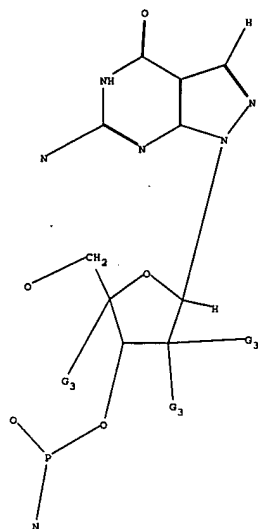


RN 118907-76-9 CAPLUS

CN Propanamide, N-[1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-.beta.-D-erythro-pentofuranosyl]-4,5-dihydro-4-oxo-1H-pyrazolo[3,4-d]pyrimidin-6-yl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.





chain nodes :

15 19 20 23 24 26 27 28 29 30 31 32 33 34 35

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14

chain bonds :

2-15 4-29 7-34 9-10 10-30 11-23 11-24 12-35 13-26 13-27 19-20 27-28 31-33  
31-32 31-35

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9 10-11 10-14 11-12 12-13 13-14

exact/norm bonds :

1-2 1-6 2-3 2-15 3-4 4-5 4-29 5-6 5-7 6-9 7-8 8-9 9-10 10-11 10-14 11-12  
11-23 11-24 12-13 12-35 13-14 13-26 19-20 31-33 31-32 31-35

exact bonds :

7-34 10-30 13-27 27-28

G1:H,Ak

G2:H,Ak,N

G3:H,X,Ak

G4:H,Ak,O

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom  
12:Atom 13:Atom 14:Atom 15:CLASS 19:CLASS 20:CLASS 23:CLASS 24:CLASS 26:CLASS  
27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS